JUN 4 1928

PAPER TRADE JOURNAL

Vol. LXXXVI, No. 22 MAY 31, 1928 United States, Per Annum, $4.00 Canada and Foreign Countries in Postal Union, $5.00

R&H

LIQUID CHLORINE

For complete list of R & H Paper Chemicals see Drug & Chemical Guide Book and Chemical Engineering Catalog.

Paper mills procuring their requirements of Liquid Chlorine from R & H find that it measures up to the highest standards of quality. This satisfactory service in R & H Liquid Chlorine can be extended to other mills that place a premium on excellence of product, extensive technical cooperation and prompt deliveries. Adequate R & H fleets consist of both single and multiple unit tank cars.

The ROESSLER & HASSLACHER CHEMICAL CO.

709 Sixth Avenue, New York, N. Y.

DRYING COE MACHINERY

The COE Continuous Roller Dryer—MODEL 23—for Boards

The above is the side view of a Coe Continuous Roller Dryer in the plant of the John A. Manning Paper Company at Troy, N. Y. This dryer has a daily (24 hr.) capacity of ten tons of pressed board.

How You May Get the Facts

THE paper or pulp manufacturer who has in hand the development of a new board or similar product that is too stiff or too thick to dry on the cylinders of a paper machine has to solve the problem of getting rid of the water in the material turned out by his machines.

The Coe Experimental Laboratory offers to the manufacturer of such products a commercial-size machine comprising a complete dryer and ventilating system, equipped with indicating and recording instruments that report operating conditions at all times, together with equipment for testing materials as they enter and leave the machines.

This Experimental Laboratory is at the service of the manufacturers of wall board, insulating board, binders board and other heavy sheet products without obligation, and all data and test information is held in strictest confidence.

Come to Drying Headquarters for help in working out your drying processes.

The Coe Continuous Roller Dryer for boards eliminates the inefficiency and waste of drying rooms and tunnel kilns. Boards are delivered perfectly flat and free from defects in a fraction of the time required by less modern methods. Let us show you some of the operating advantages of the Coe Model 23 Roller Dryer. Bulletin 104-O will be sent on request.

The COE MANUFACTURING COMPANY

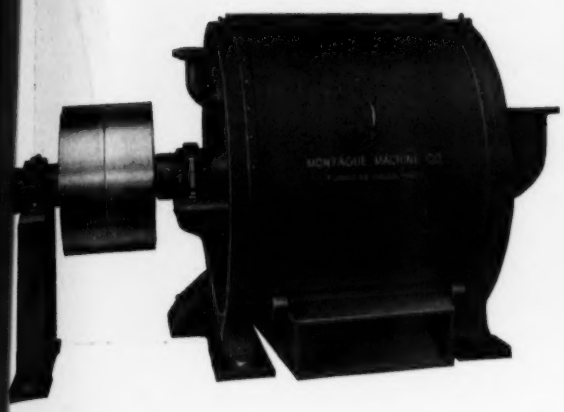
432 BANK STREET
PAINESVILLE, OHIO

Builders of Dryers for Celotex, Insulite, Sheetrock, Best Wall, Beaver Board, and Many Other Nationally Advertised Boards.

Entered as second class matter August 13, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1872 FIFTY-SIXTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., E. Stroudsburg, Pa.
EXECUTIVE AND EDITORIAL OFFICES: 10 East 39th STREET, NEW YORK CITY. CHICAGO, 123 West Madison Street, Chicago, Ill.

The Montague Screen

Patent applied for.



Check these good points:—

Utmost simplicity of design, rotor the only moving part, built either right or left hand, economical in first cost, low in maintenance cost and power consumption, large capacity of high and uniform quality of screened stock, low percentage of rejections and rejections well washed.

We also build—

International three pocket Grinders, Curtis Patent, for four foot wood.

Curtis Patent Hydraulic Grinder Lathes.

Automatic Water Jets for cleaning cylinder mould wires.

Automatic White Water Samplers.

Cylinder Moulds, new and re-built.

Ball Valves.

The Montague Machine Co.

TURNERS FALLS, MASS.

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — F. K. HOPPIE, Secretary

Executive and Editorial Offices, 10 East 39th Street, New York
Chicago Office: 123 West Madison St

TABLE OF CONTENTS

Copyright, 1928, by Lockwood Trade Journal Co., Inc.

Paper Mills Active in Ontario 19
Abitibi's Extensive Operations 19
Spruce Falls Ready to Produce 20
New Manager for Continental Corp. 20
Chicago Paper Market Shows Improvement 21
Coarse Paper Executives Dine 21
Dominion Envelope & Cartons Expands 21
Paper Demand Quiet in Philadelphia 22
Fire Damages Paper Building 22
Philadelphia Century Firms Celebrate 23
Wage Increases for Mill Employees 23
Construction News 24
Boston Paper Market Conditions 25
Allied Paper Mills Athletic Activities 25
Paper Box Makers Successful Convention 26
Sutherland Paper Co. Plans Stock Increase 27
Urge Replies to Simplification Questionnaire 27
Zellerbach Co. Plans Additional Unit 27
Essentials of Wasteless Administration 28
Pusey & Jones Make Improvements 30
Paper Mill Executive Honored 30
Japanese Paper Production Increases 30
News of Fox River Valley 32
New York Trade Jottings 34
Power Plant Section 36
Obituary 40
Editorial 42
Swedish Wood Pulp Sales Smaller 43
Technical Section
Latex Sizing by the Beater Method 45
Beating and Washing of Rags 47
Wall Board Patent History 50
Current Paper Trade Literature 53
Cost Section 55
American Writing Staff Changes 59
Imports of Paper and Paper Stock..... 60
Paper Mill Stocks and Bonds 64
New York Market Review 66
Miscellaneous Markets 68
Market Quotations 68

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements 75, 76, 77, 78, 79

Every Superintendent FACES This Problem

There are no folds or seams in Goodrich "1788 Highflex" Belt, illustrated above. Ply for ply it is just as strong as any belt, yet the construction is so flexible and compact that 7 or 8 plies can be used on pulleys where other belts must be limited to 6 plies. That's one of many reasons why "1788 Highflex" affords greater driving power on overloaded drives.

Send for Bulletin 2105 which gives complete information on this belt construction.

The rule says there should be 4" of pulley diameter per ply of belt—but what are you to do when you need a 9-ply belt to pull the load with a 24" pulley?

One superintendent had 14 tube mills grinding Portland cement; motor pulley 24", driven pulley 96"; 24 inches wide, endless, speed 3800 f. p. m.; 220 H. P.; excessive dust; full load starting. Eight-ply belts not only bootlegged but stretched badly, as did triple leather belts. Then he ordered a 9-ply endless Goodrich "1788"—and later bought thirteen more for the entire line of drives. After two years, none of the 14 belts have stretched beyond the take-up limits and none have been shortened. Eight required no attention at all during the first six months. 17,056 mill hours is the average service of these 14 Goodrich belts.

If *you* want service like this, specify Goodrich "1788 Highflex."

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 Akron, Ohio

Goodrich
"1788 Highflex" Belt

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXVI, No. 22 — PAPER — Thursday, May 31, 1928

Paper Manufacturers Very Active in Ontario

All Sections of Industry Continue Unusually Busy for Time of Year — Book Paper Mills Booked Well Into Summer—Makers of Bonds and Ledgers Also Booked Well Ahead—Board and Light Weight Paper Mills Share in General Improvement—Wholesale Paper Trade Rather Spotty—Book Paper Price War Practically Ended

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, May 28, 1928.—The feature of the wholesale paper trade in Toronto during the past week has been the settlement of the price war among certain of the jobbers in book papers. For a couple of months past the printers and other consumers of book papers have been getting some pretty cheap stock as the result of the rivalry for orders by some of the wholesalers, although there does not appear to have been any great stocking up by any of the printing houses. There have been several get-togethers of price cutters and price holders during the past couple of weeks and the result is that old prices are now restored throughout the trade and peace once more reigns after a rather strenuous battle among a section of the trade in book papers. The settlement of the affair is viewed with a good deal of satisfaction in the wholesale paper trade and it is felt that there has been a general clearing of the atmosphere and a better understanding among the jobbers.

For the past week or so the wholesale paper trade in Ontario has been a bit spotty, with less volume selling than was expected at this season of the year. However, a fair average has been maintained in most lines of fine papers, while there is a slightly better call for coarse papers. Kraft is in good demand and the paper bag section is quite busy. There is a moderate call for coated stock and bonds, writings and ledgers are selling well one week and in smaller volume the next. In some sections doubt is expressed whether the general average of paper sales this spring is going to measure up to that of the same season last year, but in the prosperity attending most lines of manufacture in Canada just now, it is believed that the wholesale paper trade will have been found to stack up well ere the summer months set in.

The mill trade is busy. Manufacturing activity is evident in all sections of the industry and book paper mills are booked well into the summer, while makers of bonds and ledgers also have orders ahead, although not to the same extent as the book mills. Light weight paper manufacturers are real busy and so are the board mills which are selling a lot of stuff to the paper box making plants. Some of the box makers have been readjusting their prices to meet the increased quotations on board, while others are sticking to their regular rates, possibly anticipating a return to the old board prices later on. With the exception of envelopes, the paper converting trade is showing signs of improvement, general stationery lines being in good demand. Envelope manufacturers report a falling off in production owing to a lessened call for their product, which is expected at this season of the year.

Hinde & Dauch Co. Expansion

Acquisition of additional properties, extensions and improvements of the Hinde & Dauch Paper Company, of Canada, is being financed through the sale of $1,500,000 5½ per cent first mortgage bonds, which were publicly offered this week. The company has been in operation in Ontario for the past eighteen years. It is now the largest manufacturer in the Dominion of fiber shipping boxes and corrugated paper products, and also is the largest producer of straw paper for corrugating purposes. Lately Hinde & Dauch acquired the business of the Thompson and Norris Company, of Canada, Ltd., through an exchange of the company's stock. Furthermore the company now has under way plans for the construction of a large mill at Winnipeg which will take care of western demands.

Kilgours To Erect New Building

The Toronto Harbor Commissioners this week announced the completion of a deal with Kilgours, Ltd., paper bag and paper box manufacturers, for the sale to that firm of the southeast corner of Fleet and John streets. The lot is 200x133 feet, and on it will be erected a modern fireproof building of reinforced concrete, seven stories high and containing 140,000 square feet of floor space. The building will cost in the neighborhood of $250,000. The firm's rapidly expanding business has made the change necessary, and will permit a consolidation of its various storehouses now scattered over the downtown area. No time will be lost in completing the new structure, which is only one of several now under way on Harbor Board property, including two box board mills. Started fifty-three years ago, a small basement room on Front street was sufficient to accommodate the Kilgour Company, but expansion was so rapid that eight years later they took over the present building at 21-23 Wellington street West, where they have remained for the past 45 years. The firm was established by the late Joseph Kilgour, whose widow has just donated "Sunnybrook Farm" to the city as a park.

Abitibi's Extensive Operations

The listing on the Toronto Stock Exchange of additional common stock of the Abitibi Power and Paper Company to cover the amount given in return for stock of subsidiary companies of the news print merger, other than Spanish River, calls attention to the broad and diversified organization now brought under one control and unified management. The two youngest operating subsidiaries, Manitoba Paper Company and Ste. Anne Paper Company, have taken a definite place in the Abitibi consolidation. The detailed inspection of the two "junior" plants during the past couple of months, it is understood, has proved highly satisfactory, and those units are expected to prove valued and profitable partners in the world's largest news print group. Each mill operates two machines, slightly larger than Abitibi's machines at Iroquois Falls, producing paper 234 inches wide, and having a daily capacity

of close to 125 tons each. Being installed recently, these four machines are naturally up-to-date in design and highly efficient in operation. Each mill, with its two machines, has, on occasion in the past month or two, produced a total of in excess of 250 tons of news print in a single day, an average of over 125 tons each, a yearly capacity of 75,000 tons for each mill. The speed with which paper is turned out is over 1,000 feet per minute, and this huge sheet, nearly twenty feet in width, is rolled out for hours at a time without a break. It is understood that these mills are being utilized by the merger company well up to their capacity, thereby increasing the efficiency of the whole organization and lowering overhead costs, a material advantage when the average production for the whole country is running at a ratio of around 80 per cent or even less of installed capacity. For the entire year Abitibi will have the benefit, according to the merger agreement, of the earnings of the Manitoba Paper Company and the Ste. Anne Paper Company, without having to pay out any common dividends to the shareholders who now hold the new no-par common stock of Abitibi.

Spruce Falls Ready to Produce

Spruce Falls Power and Paper Company's first news print machine at Kapuskasing, Ont., as well as the first unit of 74,000 h.p. from the power plant at Smoky Falls, is now practically ready to come into operation. Work on the company's huge power and paper project in Northern Ontario has been proceeding faster than scheduled and it is anticipated that the full capacity of the paper plant, namely 170,000 tons a year, will be reached before January next. The *New York Times* will consume about 110,000 tons and the remaining 60,000 tons will be sold in the open market. The company is controlled by the Kimberley-Clark Company and the *New York Times*. It has pulpwood rights on nearly 5,000 square miles of limits, estimated to contain 10,500,000 cords of pulpwood. Properties also include power sites at Kapuskasing and at Smoky Falls on the Mattagami River. In addition to the news print mill, the company also has under construction sulphite and ground wood pulp plants with rated capacity of 230 and 440 tons daily, respectively. In addition to 200,000 shares of n. p. v. common stock held by Kimberley-Clark and the *New York Times*, the issued capital of Spruce Falls Power consists of $6,500,000 first preferred and $5,000,000 second preferred.

New Manager for Continental Paper

The Continental Paper and Bag Mills Corporation announces the appointment of a new manager, J. L. Stille, formerly sales manager of the Chicago branch of the company, is the new appointee. The company, which is controlled by the International Paper Company, makes a complete line of wrapping paper, paper bags and tissue papers, and in addition to eleven plants in the United States, operates two plants in Canada. At the present time, a general plan of improvement is in progress at the various mills of the company.

Notes and Jottings of the Trade

According to word from British Columbia, the Westminster Paper Mills, Ltd., New Westminster, will expend $23,000 in increasing the capacity of its plant by the installation of additional machinery. Contract for a building to house the new equipment has been awarded to the Dominion Construction Company.

All paper mills drawing power from the Welland Canal in the Niagara Peninsula were closed down last week for the annual spring cleaning of the waterway. The canal, which is very narrow, was constructed some seventy years ago, in the days before the steam shovel came into vogue and it is said to have been dug by hand shovels. The paper mills affected by the house cleaning operations of the Government are Provincial, Interlake, Garden City and Lincoln.

For some time reports have been current in Toronto that the Dryden Paper Company, of Dryden, Ont., is to be the subject of a deal with the Canada Power and Paper Company. Recently, a director of the Dryden Paper Company is said to have stated that the board of directors had not, as yet, had any offer under consideration for the purchase of the company, and that the absence of the president, W. A. Black, who is in Europe, precluded the possibility of any such development for some little time to come.

About twenty members of the staff of Brown Bros., Ltd., manufacturing stationers, Toronto, were the guests of K. S. Maclaughlan, president of the Lincoln Pulp and Paper Company, Ltd., at Merritton, Ont., a few days ago, when they were shown through the mill in groups under a guide, and afterwards entertained at luncheon by the paper company at the St. Catharines Club. Included in the Toronto party were R. N. Brown and Harry Hook, the latter sales manager for Brown Bros., Ltd.

H. A. Moses, of the Strathmore Paper Company, was a business visitor in Toronto this week.

Leslie M. MacAdams, president of the Canadian Printing Company, of Sarnia, Ont., and widely known among paper men, met a tragic death when his clothes caught fire from a cigarette, while in a locked bathroom. He was a former proprietor of the *Sarnia Observer* and had only recently returned from a hospital in Toronto where he underwent an operation.

It is anticipated in Stock Exchange circles in Toronto that at the next dividend meeting of F. N. Burt directors, the disbursement on the stock will be increased to $4 a share from the existing rate of $3 a share. The company showed earnings of $4.60 a share on the stock for the year 1927, and, in the meantime, both sales and profits from the Canadian division are reported to have been showing a steady growth, while the United States division has also been enjoying an important scale of earnings. With the outlook for continued expansion in business and industrial activity throughout the current year, this improvement in earnings should be emphasized during the latter part of the current year.

Offset Cartons, Ltd., Toronto, have installed a No. 1 L. & M. cutter and creaser machine with extension delivery and semi-automatic feeder. The unit was sold through British Printing Machinery, Ltd., Toronto.

Construction work has already started on a branch factory in Windsor, Ont., for the London Shipping Containers, Ltd., of London, Ont. The plant will be one story and will represent a structural cost of $30,500. July is set as the month in which manufacturing operations will begin.

A committee from the Toronto Board of Trade visited a number of the paper mills in Northern Ontario last week, including those at Kenora, Fort William, Port Arthur and Fort Frances. Speaking of the development of the north country they remarked that a great deal of business from the Fort Frances district was going to the United States because of the railway line from there to Minnesota. A line to the north would keep this business in Canada, they said.

To enter into the yearly contract and agreement with the employees of the Thunder Bay Paper Company at Port Arthur, Walter L. Mead, personal manager, and R. Barrett, employment superintendent of the Wisconsin and Biron division, Consolidated Water Powers and Paper Company, Wisconsin Rapids, Wis., were in Port Arthur last week. Mr. Mead had nothing to say regarding the company's expected further development of the company's interests in Port Arthur.

Send Out Waxed Paper Questionnaire

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 16, 1928.—Word has just been received here that the American Waxed Paper Association is sending out questionnaires to its members in connection with a proposed simplification and standardization program.

Paul S. Hanway, secretary, has requested the Simplified Practice Division of the Department of Commerce to cooperate with him in this work and H. R. Colwell, of the Division has been assigned to assist.

Chicago Paper Market Exhibits Improvement

Demand for Various Grades Proved More Active During Past Week—Request for Fine Papers Was Particularly Persistent, Especially for the High Priced Varieties — Book and Cover Papers Steadier—Wrapping Paper Moving in Good Volume

CHICAGO, Ill., May 28, 1928.—Business conditions are a bit more favorable and a somewhat larger amount of business has been transacted in the Chicago paper market throughout the past week according to reports. Fine papers especially are reported as having experienced a noticeable increase in demand, particularly in the more higher priced grades.

There is no change in the news print market with the demand continuing good and the mills reported running at a very fair pace. Book and cover papers continue a little steadier and more in demand, according to reports, while wrapping paper continues to be favorable with this condition expected until far into the real warm weather. The board market is steady. Prices in all lines in general are reported as steady and firm. Buying continues to be in small quantities with competition in all grades of paper decidedly warm.

An increase is noted in the use of direct mail literature as several of Chicago's leading manufacturers and distributors have instigated a fairly good sized stream of direct mail advertising. Spring catalogs and forecasts have also created a nice market for papers used in direct mail advertising. Business of all kinds, in Chicago, seems to be weathering the presidential year bugaboo nicely.

Salesmen Inaugurate Golf Season

The first of the five monthly golf tournaments sponsored by the Salesmen's Association of the Paper Industry, Chicago division, is over. The event, scheduled for Thursday the 24th at the Wilmette Country Club, drew a big and very enthusiastic crowd, according to Tom Donohue of the Warren Manufacturing Company and chairman of the golf committee.

The day was ideal for golf and the devotees of the divots from Chicago offices of many paper mills got a big "kick" out of the all day event. The blind bogey prize was pounced upon and carried off by Warren Moore, of the Brown Paper Company. Rube Swan, of the International Paper Company, certainly took the measure of the sporty Wilmette course in shooting out a very neat 70 for the low net prize. John Wesley, of the Rhinelander Paper Company, and George B. Gibson, of International, tied for low honors on the first nine holes and George won the toss for the honors. Phil Howard, of the *American Paper Merchant*, walked off with the bunting on the second nine. H. C. Tracy, of the Butler Paper Corporation, won the special blind bogey prize.

The next of the monthly tournaments, which have already proven exceptionally popular with Chicago paper salesmen, will be held June 21 at Long Beach. Once more the offices of paper houses down in the loop will be considerably thinned out.

Coarse Paper Executives Dine

The Chicago Paper Association held its regular meeting Tuesday evening, May 22, at the Bismarck Hotel. The dinner and meeting was in the nature of a get-together for all coarse paper executives and salesmen in the Chicago district. The affair brought out seventeen representatives of Chicago coarse paper houses not affiliated with the Chicago Paper Association.

The entire evening was given over to a discussion of the program and policies of the association. The need of an organization of this type, the work it should do and the work it has done were all pointed out during the course of the discussion.

The efforts of the association to better conditions in the Chicago market were clearly outlined, so that the non-members present could get an exact impression of the splendid program they were more or less opposing by their neglect in becoming active members.

The results of the get-together were very gratifying, however, and six organizations made out application for membership in the association. A number of the others signified their intention to take immediate action so that the meeting was even more of a success than had been anticipated.

The next meeting of the association will be held June 12 at the Bismarck, and it is hoped that the membership will be greatly increased by that time.

Paperboard Men to Meet in Canada

According to word received from the headquarters of the Paperboard Industries Association, located at 608 South Dearborn street, Chicago, the next meeting of that organization is to be held at Niagara Falls, Ont., Canada, on July 17, 18 and 19. All meetings will be held at the beautiful Clifton Hotel. The three days will be given over to group meetings of the three divisions of the Paperboard Industries and one general meeting as in the past, according to latest reports. The choosing of this beautiful site is expected to attract a large attendance both for the discussions and for an opportunity to enjoy a very pleasant outing.

News of the Trade

With the Senate and the House firmly deadlocked in disagreement over the bill to revise postal rates so as to bring about reduction in the second and fourth class rates that largely govern the cost of sending out direct mail, etc., Chicago advertising and paper men are just wondering when any really favorable action is really to be taken. It now appears unlikely, according to reports, that any sort of bill will pass this session or any rates be affected unless the Senate recedes from its amendments and agrees to the house rates, those operative in 1921.

Edgar A. Hall, Jr., Pilcher-Hamilton Company, Chicago, left the middle of this week for a short business trip into Missouri and Nebraska. He will visit Springville, Mo., and the Carpenter Paper Company at Omaha, Nebraska, returning to Chicago the first of next week.

The Lake Shore Paper and Twine Company has recently separated its offices from its warehouse and the offices are now located at 664 North Michigan avenue, Chicago.

J. B. Jones, of the Western Newspaper Union, Omaha, was a Chicago visitor for a day or two this week.

Dominion Envelope & Cartons, Ltd., Expands

TORONTO, Ont., May 28, 1928.—The Dominion Envelope and Cartons Limited have recently acquired control of the Hitchings Paper Box Company, Winnipeg, the Winnipeg Paper Box Company, Winnipeg, and the Dominion Carton and Printing Works, Edmonton. The new company, with head offices in Winnipeg, will be known as "Dominion Envelope and Cartons (Western) Limited."

A reinforced concrete building of 80,000 square feet has been purchased in Winnipeg and a new building is to be erected in Edmonton. The old company of the Hitchings Paper Box Company, which now has a building of its own, and the Winnipeg Paper Box Company which also has a separate building, will be moved into the newly acquired building and manufacture under one roof.

These three companies are the only carton manufacturers in the Prairie Provinces and will give considerable box board tonnage to the Dominion Boxboards Limited, Toronto, who are just completing erection of a new mill on the harbor front, which company is owned and operated by Dominion Envelope and Cartons, Ltd., 130-150 Duchess street, Toronto.

Paper Demand Rather Quiet in Philadelphia

Although General Market Continues to Exhibit Firm Undertone, Bulk of Business Recently Reported Was For Immediate Requirements—Opening of Outdoor Activities Creates Request for Summer Specialties—Box Board Only Moderately Active

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 28, 1928.—Though the trade has been gradually drifting into quieter channels with the closing days of the month there nevertheless has been a firmer tone to the general paper market, indicating the command which the mills hold on the productive side of the paper trade. While dealers continue to maintain a hand to mouth type of business the mills are not urgently offering their wares to the distributors below the market values, that have been growing steadier despite the slower pace of the industry as the springtime wanes.

There has been a decidedly downward trend of the paper market in the anthracite regions where the coal mining industry has been hard hit for business within recent times. The demand for paper in that section of the State has been falling off considerably within recent weeks. Travelers from local paper houses have been experiencing much difficulty in securing the small orders which they are able to obtain only by persuasive sales arguments among the consumers in the coal territory. Most of the local trading is being done by mail as it has been unprofitable to keep men out in the field while there is a lack of interest on the part of the consumers in the up-State trade.

As the summer months and the needs of hot weather are anticipated the Quaker City paper trade is holding to the normal demand for specialties that will be needed when the dog days are at hand. The opening of out door activities has created a market for many outing requirements such as paper cups, plates, napkins, and picnic paper wares that are now being stocked by consumers who are preparing for the summer season. Glassine specialties for the food, confectionery, box making and other trades are now moving in fair volume. Box boards while firm in price are not as active as the normal season requirements warrant. Prices of chip hold at $45 while news boards are quoted at $47.50. Consumers of paper boards are clinging to the small quantity purchases that are needed for day to day operations and are not stocking ahead, believing that prices may break lower as the summer approaches.

Paper Men Join Typothetae Outing

Members of the Philadelphia Paper Trade Association will unite in the enjoyment of the outing staged for today by the Philadelphia Typothetae at the Cedar Brook Country Club, to be held jointly with the annual election of officers of the Master Printers' organization. The outing had been scheduled for May 14 but was postponed until the 28th. There will be a diversified program of sports, golfing, baseball, putting contests, quoits pitching and other outdoor amusements followed by the dinner at the club house and election of officers. The evening will be given over to a dance program and the showing of two films of old French Canadian scenes in the Land of Evangeline and Quebec where will be held the annual U. T. A. Convention from October 1 to 6 next. The paper men who will be elected to the board of directors today are A. Richard Hartung, of A. Hartung, Inc., with Morgan K. Thomas, of the Garrett-Buchanan Company, alternate.

Garrett-Buchanan Co. Forms Welfare Association

Organization of the Garrett-Buchanan Company Welfare Association was announced last week following the perfection of plans for the development of a cooperative employee body under the direction of President Morgan H. Thomas, of the company, for the promotion of fellowship between executives and the staff. The following members of the organization were elected: President, Harold Wollaver, assistant treasurer of the company; vice president, Charles Levro; secretary, Ernest Barrett, and treasurer, J. Ellwood Thomas, son of the president of the firm. The first of the social activities of the organization will be instituted when the annual outing takes place on June 9 at the Brookline Square Club. B. J. Beale has been selected as chairman of the outing committee which has arranged a program of sports, dinner and dance to make this initial function an enjoyable occasion for the members. There are 150 associates of the Garrett-Buchanan Company enrolled in the newly organized welfare body.

Wholesale Paper Merchants Outing

The first annual outing of the Wholesale Paper Merchants Association of Philadelphia will be held on June 15 as planned at the monthly meeting of the organization held at the Benjamin Franklin Hotel last Friday. While the date has been selected, the place and program still is to be decided and these have been left to the committee in charge of arrangements headed by President Howard Satterthwaite, of the Satterthwaite Cobaugh Company.

Samson Cordage Co. Offers New Product

Philadelphia wrapping paper dealers and others featuring twines and cordage were offered a new product that has been popular within recent time by the Samson Cordage Company, 88 Broad street, Boston, Mass. The new product was introduced by G. W. Foster, who returned from a tour of the West and South via Philadelphia last week. It is the Rodeo Rope used by the Boy Scouts, followers of Will Rogers, who have been heavy purchasers of this newest rope product. This supplemented the line of cords and twines usually carried in stock by the paper dealers.

Fire Damages Paper Building

Fire which destroyed the fifth floor of the building occupied chiefly by paper concerns did considerable damage to stocks of dealers who were housed on other floors of the structure. The building located at 270 South American street is owned by Sylvester S. Garrett, who is engaged in the wrapping paper and specialty business and who occupied the first and part of the upper stories of the building for warehousing purposes. The other paper houses with headquarters on the premises are the Hooper Paper and Twine Company, quartered recently on the second floor where damages amounted to $2,200, and the Progressive Paper Company on the South American street entrance to the building. The fire started on the floor occupied by the Franco American Lamp Shade Company, where the entire stocks were destroyed by the flames. The damage to the paper wares were by water used to extinguish the fire.

Beck Machine Co. Puts Out New Cutter-Sheeter

The very newest of equipment to be developed by the Charles Beck Machine Company, 609 Chestnut street, linked with the Beck Paper Company, is the Beck Automatic Roll Sheet Cutter adapted for wall paper manufacturers. This new sheet cutter is used by wall paper manufacturers for converting samples with imprint on the back of the sheet and is convenient for jobbers and manufacturers of wall paper as a labor saving device that gives speedy service and economy in production. It is equipped with the non-curling device recently patented by the company. There also is produced this new sheet cutter without the printing attachment which is adapted for general paper converting uses. The Beck company has been broadening its mechanical equipment sales within recent years and with the closing of the fiscal year

on March 31, 1928, it was found that the firm's record for the year was the largest in the history of the business. The Charles Beck Machine Company is controlled by the same interests who are identified with the Beck Paper Company and occupies part of the building owned by the paper distribution concern. The various units of paper machinery produced by the company were shown last week at the National Paper Box Manufacturers Association Convention held in New York at the Waldorf-Astoria Hotel. The firm was represented at the convention by W. Lindsay Matlack, of the sales staff.

Paper Houses Represented at Box Manufacturers Convention

Several of the Quaker City paper firms featuring largely paper box manufacturers' supplies were represented at the annual convention of the National Paper Box Manufacturers Association, held last week at the Waldorf-Astoria Hotel, New York. There were among the local paper distributors, the A. M. Collins Manufacturing Company; A. S. Datz and Sons; Philip Rudolph & Co.; Matthias and Freeman Company; Paper Service Company, and Pinco Paper, Inc., of Camden.

A. S. Datz & Son Introduce New Box Papers

For the first time the paper box manufacturing industry was introduced to an entirely original idea in box covers of very high grade, distinctly apart from the ordinary types of papers, by A. S. Datz & Son, 16 South Marshall street, during the National Paper Box Manufacturers Association Convention in New York last week. This new product was so highly estimated by the visitors at the convention that six of the Philadelphia associates of the Datz company were obliged to be in constant attendance at the exhibit in the Astor Hotel throughout the three days of the yearly meeting. Those who journeyed to the Metropolis were John A. Datz and Howard Marcus, of the firm; Joseph Maerz, Wayne Preston, Charles Ambler and William J. O'Rourke, of the sales staff. The new types of box papers are called the Phantasm Papers, an entirely new creation never before on the market. They were first shown at the convention in the four patterns now available in any color combination desired. They are beautiful hand painted papers done in oil of permanent fastness of colors that cannot be produced in other manner. Sample sheets on 22 varieties of paper are available in the four patterns, known as the Phantasm Luxuriant, Phantasm Cloisonne, Phantasm Bizarre and Phantasm Bouquetier. The papers are produced under the firm's own process for which it has sole right of production. Much enthusiasm among paper dealers and box manufacturers was shown when the papers were at the New York exhibition.

A. M. Collins Mfg. Co.'s New Papers

A new line of paper box makers' papers was shown by the A. M. Collins Manufacturing Company, with central city offices at 1518 Walnut street and manufacturing plant located at Third street and Girard avenue. The new papers were displayed at the Box Manufacturers Convention last week under the Gold Prints series. They are original designs of the A. M. Collins manufacturing creation adapted for box covers of fancy grades. The New York displays were conducted by Sales Manager Howard Tunstall, of the local offices.

Service Paper Co. Exhibits

A line of imported and domestic papers were exhibited by the Quaker City box makers' paper specialty house known as the Service Paper Company, recently removed to the old quarters of the Paper House of Pennsylvania at 28 North 6th street, from its former location at 19 South 7th street. The imported specialties comprise an assortment of German, French, Austrian and Oriental designs for the novelty box cover requirements. W. A. Welsh, head of the firm, and A. H. Wilkins.

Matthias & Freeman Display Box Line

A wide range in assortment of the Sun Rise Line made exclusively for the Matthias and Freeman Paper Company, of this city, was offered in the display of the firm made at the box makers' convention in the Metropolis. The line has more than 88 numbers of modern novelty papers that long have been distributed through the Quaker City house. This 1928 display of the Sun Rise line is one of the most colorful as well as modern offerings in box makers' supplies. Charles and Raymond Matthias, members of the firm, and W. W. Daniels and H. M. Cramer.

Paper Trade Association Meets

The Fine Paper Division of the Philadelphia Paper Trade Association met in semi-monthly session at the Bourse Restaurant last Thursday when matters pertaining to trade conditions were discussed. W. S. Wilcox, of the Wilcox Walter Furlong Company, vice president of the association, presided as chairman of the session. There was high tribute paid to the constructive talk given by Executive Secretary Frank Floyd of the National Paper Merchants Association upon his recent personal appearance before the local members at the Penn Athletic Club, by the chairman and the fine paper associates.

Century Firms Celebrate

Among the paper manufacturers celebrating the century of business history with the Philadelphia concerns engaged in various lines of industry for more than 100 years at the dinner given by the Chamber of Commerce at the Benjamin Franklin Hotel in the early part of last week were the McDowell Paper Mills, the Dill and Collins Company, and the Shryock Brothers. The McDowell Mills date back to 1827 and have been consecutively in the control of three generations, the present owner being Charles McDowell, grandson of the founder, Joseph McDowell, and son of Francis Warren McDowell, his successor in the business. The mills now produce glassines, grease proof products and fine wrapping papers for the drug, confectionery and other trades. The Shryock mills now located at Downingtown were the first paper board mills in the state of Pennsylvania and were operated at Chambersburg, Pa., before the days of machine made boards, and founded in 1790.

The Dill and Collins Company dates back to the original paper making mills of David Rittenhouse, the first in America, established here in 1690. The Baeder Adamson Company was linked with the century firms this year for the first time, having become eligible with the attainment of one hundred years of business history. The company manufactures glue and sand papers.

Wage Increases for Mill Employees

ALBANY, N. Y., May 28, 1928.—The International Brotherhood of Papermakers has practically completed the work of negotiating new wage and working agreements for the coming year. William R. Smith, president of the Brotherhood, returned to Albany a few days ago after holding conferences with the Unity Paper Company of Potsdam, the St. Croix Paper Company of Woodland, Me., and the Cushnoc Paper Company of Augusta, Me. The Unity Paper Company has granted a wage increase retroactive to May 1 which will give every employee of the company an increase ranging from ten to fifteen cents a day. President Smith was able to effect an agreement with the St. Croix Paper Company which places the new third hand schedule into effect. Certain adjustments are still pending with the Cushnoc Paper Company, although in the main last year's wage scale and working conditions will prevail.

Agreements negotiated with Finch, Pruyn & Co., Glens Falls, carry slight wage increases for some classes of employees. President Smith will leave this week for Mechanic Falls, Me., for a conference with the Water Falls Paper Company, which will practically complete this year's conferences with the exception of one at Gilman, Vt., where the date is still pending. The fact that the mill dam at Gilman went out a short time ago has caused some confusion.

A second conference with the Minnesota and Ontario Paper Company was held this week at International Falls with Matthew H. Parker representing the Brotherhood. At the first conference there is said to have been a hitch over the question of wages.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Baltimore, Md.—The Chesapeake Paper Board Company, Key Highway and line of Baltimore and Ohio Railroad, is having revised plans prepared for its proposed new plant addition and will take bids about the middle of June on general contract. It will be one and two-story, estimated to cost in excess of $250,000, with equipment. Karl A. Lefren, 171 Madison avenue, New York, is architect and engineer. J. E. Smith is president.

Mobile, Ala.—The Union Mills, Inc., 377 Broadway, New York, operating textile mills for knit goods production, is planning the removal of several present plants to new sites in Alabama, and in connection with proposed expansion at latter location will establish two mill units for the production of folding paper boxes for distribution of its merchandise. Proposed box plants will be one-story, reported to cost more than $70,000, with equipment. It is understood that a portion of machinery will be transferred from present plants to new location, with additional equipment for increased output. Present textile mills of the company are at Catskill, Hudson, Mechanicsville and Johnsonville, N. Y.

Cleveland, Ohio—The J. B. Pearce Company, 1069 Old Superior Viaduct, wall papers, etc., is reported planning the early rebuilding of portion of warehouse and distributing plant destroyed by fire, May 20, with loss reported in excess of $40,000, including building and stock.

Buffalo, N. Y.—The Laclede Manufacturing Company, 1443-53 Niagara street, manufacturer of card stocks, color cards, etc., has asked bids on general contract for its proposed new plant on Northland avenue, near Fillmore avenue, to be one-story, reported to cost in excess of $85,000, with equipment. It is understood that present factory will be removed to new location and capacity increased. E. G. Speyer, Ellicott Square, is architect and engineer, and will soon make general contract award. B. W. Burleigh is president.

Chicago, Ill.—The Container Corporation of America, 111 West Washington street, manufacturer of corrugated boxes and containers, has concluded negotiations for the purchase of the local plant of the Chicago Coated Board Company, 420 East North Water street, an interest of the Robert Gair Company, and will use as a new plant unit. The mill will be continued under full capacity production and will increase output of the purchasing company to about 1,200 tons per day. The Chicago company plant has recently been extended and improved, and it is understood that the new owner does not plan any immediate changes. The Robert Gair Company, it is said, will hereafter devote its production to mills in New York and New England. Walter Paepcke is president of purchasing organization.

Brooklyn, N. Y.—The W. S. T. Sani-Products Corporation, recently organized by Jacob Krisel, 68 St. Paul's place, Brooklyn, and associates, will operate a local plant for the manufacture of paper products of various kinds, including tissue goods. Harold Hevner, 280 Riverside drive, New York, is another incorporator of the company.

St. Louis, Mo.—The Waxide Paper Company, Kansas City, Mo., is making ready for early erection of its proposed new local mill for manufacture of waxed paper goods, on site recently acquired on Newstead avenue, to be one-story, reported to cost more than $200,000, with equipment. Arrangements are being made by the general contractor, Fruin-Colnon Contracting Company, Merchants' Laclede Building, St. Louis, for early call for sub-bids on different parts of work. L. Haeger, 3844 Utah place, St. Louis, is architect.

Augusta, Ga.—The Garment Protector Corporation, recently formed by David and Shier Levkoff, Shirley Apartments, and associates, plans the establishment of a large plant on local site for the manufacture of special folding boxes and containers for garment service, of patented type. Initial plant is reported to cost more than $40,000, with equipment, and will be extended at later date.

Los Angeles, Cal.—The Stewart Paper Products Company recently formed by Henry B. Steward, Santa Monica, Cal., and associates, will operate a local plant for the manufacture of a line of paper goods. The new company is capitalized at $75,000. A. L. Suman and Carlyle F. Heney, both of Los Angeles, are also interested in the concern.

Danville, Ill.—The Sears Paper Box Company, Industrial street, has plans nearing completion for a new addition for large increase in present output, to be one-story and basement, 60x120 feet, with L-extension, 60x60 feet, reported to cost in excess of $50,000, with equipment. It is understood that bids will be asked on general contract at an early date. H. F. Skadden, Temple Building, Danville, is architect.

St. Paul, Minn.—The Kaplan Paper Box Company, 130 South Wabash street, has taken out a permit for the erection of a new plant addition on adjoining site, for which general contract recently was let to Keiffer Brothers. It will be two-story, 50x100 feet, reported to cost close to $25,000, with equipment. Work will be placed under way at once.

Chicago, Ill.—The National Paper Products Company, 212 West Randolph street, has completed plans and will take bids at once for a new three-story and basement building at Green and Austin streets, designed for storage and distributing service. It will be 32x40 feet, estimated to cost approximately $40,000, with equipment. Albert J. Buerger, Jr., 5312 West Chicago street, is architect, in charge.

New York, N. Y.—The Ultra Manufacturing Corporation, care of Milton D. Pinner, 252 Wadsworth avenue, New York, recently formed by Mr. Pinner and associates, will operate a local plant for the manufacture of paper novelties and kindred products. Henry Young, 1749 Topping avenue, is also interested in the new organization.

Brooklyn, N. Y.—The Liberty Corrugated Case Company, Inc., 218 Bedford avenue, has recently leased space in the Bush Terminal, consisting of a section of floor in Building No. 20, for additional storage and distributing facilities.

New York, N. Y.—The International Paper Company, 100 East Forty-second street, is reported to have preliminary plans in progress for its proposed new news print mill in the Chaleur Bay section, New Brunswick, and for which bids, it is stated, will

likely be asked early in the fall. The mill will be equipped for an output of about 250 tons per day, and is estimated to cost more than $5,000,000, with machinery. The company also has sketches under way for a new paper and pulp mill in Province of Ontario, with rated output of approximately 200 tons per day to cost close to $4,000,000, with equipment.

Canadian Construction News

Vancouver, B. C.—The Canadian Forest Products, Ltd., affiliated with the International Harvester Company, 606 South Michigan avenue, Chicago, Ill., is projecting plans for a new paper mill on the east coast of Vancouver Island to cost in excess of $3,500,000. The Provincial Government of British Columbia has granted permission to the company to use the Nimpkish River for power purposes and it is proposed to develop a hydroelectric generating plant for service at the mill. A power dam about 200 feet long will be built to furnish necessary water head. A transmission system will be built. The power development is reported to cost more than $2,000,000.

Toronto, Ont.—The Capp-Clark Company, Ltd., 157 Wellington street, manufacturer of stationery products, paper goods, etc., will proceed with superstructure for a new five-story and basement addition, brick and steel type, reported to cost about $160,000, with equipment. General contract was let recently to H. N. Dancy & Sons, 22 College street, Toronto.

New Companies, Etc.

New York, N. Y.—The American Envo-Letta Company, Inc., has been incorporated with a capital of $100,000, to manufacture special paper goods for commercial and other service. The incorporators are Arthur B. Beebe, A. F. Hoell and George L. Everitt, 186 Remsen street, Brooklyn. The last noted is representative.

New Haven, Conn.—Lehman Brothers, Inc., has been formed with a capital of $100,000, to manufacture and deal in paper specialties, writing papers, etc. The incorporators are L. B. and I. D. Lehman, 120 Crescent street, New Haven. Last noted is representative.

Brooklyn, N. Y.—The Atlasko Paper Box Company, Inc., 120 Forrest street, has filed notice of increase in capital from $10,000 to $20,000, for general expansion.

Philadelphia, Pa.—The Hartman Paper Plate and Products Company, care of the Corporation Guarantee and Trust Company, Land Title Building, has been incorporated under Delaware laws with capital of $100,000, to manufacture paper products, wood fiber specialties, etc.

New York, N. Y.—Irisware, Inc., has been formed under state laws with a capital of 100 shares of stock, no par value, to manufacture and deal in paper goods of various kinds. The incorporators are Walter W. Gross and Samuel D. Smoleff, 44-11 Skillman avenue, Long Island City, N. Y.

Adams, Mass.—The Eaton Paper Company has secured a charter under state laws with capital of 200 shares of stock, no par value, to manufacture fine paper goods. As recently reported in these columns, the company will operate as a subsidiary of the Eaton, Crane & Pike Company, Pittsfield, Mass., taking over the former mill at Adams of the Berkshire Paper Company. Arthur W. Eaton is president; and William H. Eaton, vice-president and treasurer.

New York, N. Y.—The National Paper Process Company, Inc., care of the United States Corporation Company, Dover, Del., has been incorporated under Delaware laws with capital of 100,000 shares of stock, no par value, to manufacture paper goods.

Green Bay, Wis.—The Northern Electric Company and Northern Paper Mills, affiliated, are disposing of a bond issue of $4,000,000, a portion of the fund to be used for general financing and expansion. Judson G. Rosebush is president of first noted company, and treasurer and general manager of the Northern Paper Mills.

"Plain Talk About Concrete Floors"

That the unsatisfactory service rendered by many concrete floors is the result of a mistaken idea in the minds of their owners, is the theme of a book just published, entitled, "Plain Talk About Concrete Floors." The idea which is responsible for all the trouble, according to the authors, is the attitude that because concrete floors are inexpensive they are "cheap," and, therefore, the lowest bid is the best bargain.

That the economical floor in the long run is the one which is laid with sound, tested materials by skilled workmanship and that later up-keep is inversely proportional to the initial care, is the book's theme. To prove their conclusions, the authors conducted an extensive survey of actual industrial plant floors of various types and have obtained reports from over four hundred and twenty plant engineers on their experiences with cement floor finishes.

For 20 years engineers and builders have been trying to lay floors that will stand up under modern industrial traffic. "Plain Talk About Concrete Floors" reviews the principal methods that have been used and sums up their relative efficiencies based on the surveys of actual floors and the reports of engineers mentioned.

The Engineering Laboratories of the Ohio State University have cooperated in supplying the information by reporting extensive abrasion tests of cement floor finishes of different types. It is interesting and important to find that the materials and methods which have rendered the most satisfactory and economical service in actual industrial use are found the most efficient by the laboratory investigators.

The book has approximately 40 pages and carries over 50 illustrations. It is packed with specific facts and figures, including valuable data obtained from owners on initial costs and upkeep expense. It is written for the busy man and can be read in 20 minutes.

"Plain Talks About Concrete Floors" is published by The Master Builders Company, Cleveland. Copies are supplied gratis to engineers, architects, contractors and building owners and operators.

Boston Paper Market Conditions

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., May 28, 1928.—Conditions in the paper market here have been fair throughout the week with possibly a little improvement. Prices have been steady and unchanged. In box board the market has been generally quiet. Many of the box makers of the country were attending the convention in New York. Prices are holding firm.

In paper stock and rags the demand is about the same. Old papers are steady, bagging and new and old domestic rags are rather quiet. Foreign rags are a trifle easier. April was a fair month but May has been less active.

Allied Paper Mills Athletic Activities

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 28, 1928.—The Allied Paper Mills Athletic Association is to place three baseball teams in the field this summer, one each for the King, Monarch and Bardeen divisions. Basketball and bowling will be made major sports during the coming winter months. Officers of the association are: President, Phil Jakeway; vice president, Robert Milroy; secretary, Platt Glezen; treasurer, Claire Crossley.

Torrence and Weed Address Paper Experts

KALAMAZOO, Mich., May 28, 1928.—The Cost, Technologists and Superintendents Association of the Paper Industry held a joint dinner session Thursday evening, May 17, at the Columbia hotel. C. E. Torrence, personnel director of the Bryant Paper Company, talked on organization, while W. J. Weed, of the Electro Bleaching Gas Company, Niagara Falls, gave a talk on bleaching.

Paper Box Makers Hold Successful Convention

Comprehensive Program Thoroughly Enjoyed By Large Gathering at Waldorf-Astoria, New York, Last Wednesday, Thursday and Friday—Supply Men's Fair a Center of Attraction —Walter E. Trum Elected President for Forthcoming Year

"Knowledge and Confidence Beget Profits" was the keynote of the Tenth Annual Convention of the National Paper Box Manufacturers Association, held at the Waldorf-Astoria, New York, last Wednesday, Thursday and Friday. The convention was called to order on Wednesday morning by President A. G. Burry, after which the Rev. M. Eugene Flipse rendered the invocation. Harry M. Levy, chairman of the New York and Northern New Jersey General Convention Committee, greeted the numerous guests.

Interesting addresses were made by President Burry, whose subject was "Our Industry"; H. V. Kaltenborn, associate editor of the *Brooklyn Daily Eagle,* who discussed "American Business Today and Tomorrow"; Dr. Hugh P. Baker, head of the Department of Trade Associations of the United States Chamber of Commerce, who took as his subject "The Trade Association Enters Business"; R. W. Hicks, of the Greeting Card Association, "Multiplying Sales of an Industry Through Advertising"; Eli D. Cohen, chairman of the Greater Big 13 Committee in Charge of Supply Men's Night, and others. Secretary Frank S. Records presented his annual report and discussed "National Office Activities."

Supply Men's Night

Supply Men's Night Show and Dance, sponsored by the National Paper Box Supplies Association and a number of other supply houses engaged in the industry in the East, was held at the Waldorf-Astoria on Wednesday evening. A theatrical performance was given in the Grand Ball Room, at which many prominent stars appeared. The dance followed in the beautiful Astor Galleries of the hotel. Music for both the show and the dance was rendered by the Dixie Syncopators, of Radio fame.

Expansion of Paper Box Industry

Expansion of the Paper Box Industry was discussed by many prominent leaders on Thursday morning. The names of the speakers and their subjects follow:

Harry Collins Spillman, head of Educational Department of the Remington Typewriter Company, "Personality as a Basic Factor in Selling"; Howard P. Beckett, Commissioner, National Paper Box Manufacturers' Association, "Looking Ahead"; Walter C. Carlson, Milwaukee Paper Box Company, first president of the National Association, "Transmuting Ideas into Profits"; E. E. Brooks, Merchandise Manager, Dennison Manufacturing Company, Framingham, Mass., "An Experience with Boxes in Department Stores"; Ralph L. Harden, Director of Sales, Mason Box Company, Attleboro, Falls, Mass., and Providence, "Constructive Salesmanship versus Price Cutting"; Harry O. Alderman, Alderman-Fairchild Company, Rochester, former president of the National Association, "Creating the Selling Package"; William H. Perry, Cambridge Paper Box Company, Cambridge, Mass., president of the Carton Club of Boston, "As the New Generation Views the Paper Box Industry."

Professor R. C. Bordon and Professor A. C. Busse of the Faculty of the New York University gave an instructive demonstration on "How to Win a Business Argument."

Holland Tunnel Trip

At the close of the business session buses were in readiness to take the guests to Hoboken via the Holland Tunnel. Luncheon was served at the Union Club, Hoboken, and from there the guests journeyed to the plant of the New Jersey Machine Corporation, sponsors of the trip, which they inspected with intense interest and expressed deep appreciation of the hearty welcome they received. For the ladies and others who did not participate in the Holland Tunnel-Hoboken trip, a theatre party at the internationally known Roxy Theatre was arranged.

Annual Banquet and Dance

On Thursday evening the annual banquet of the National Paper Box Manufacturers' Association was held in the Grand Ball Room of the Waldorf-Astoria. Following the banquet there was an elaborate entertainment concluding with dancing in the Astor Galleries. During the theatrical performance the gathering was amazed and astounded by Dunninger, the premier mind-reader of the world and great exposer of spiritualistic seances, following in the steps of The Great Houdini.

Paper Box Industry Under Microscope

The paper box industry was placed under the microscope on Friday morning. Walter E. Trum, the newly elected president, made his inaugural address, after which F. A. Fielder, president of the Canadian Paper Box Manufacturers Association, Inc., Toronto, spoke on "The Craze for Volume"; Charles T. Reid, of Chas. Reid & Co., Hamilton, Ontario, presented "The Comeback of Canadian Business."

Visitors from afar, including Councillor James M. Ritchie, Andrew Ritchie & Son, Ltd., Glasgow, Scotland; Fred W. Kewell, Western Paper Box Company, Oakland, Cal., and Jay Platt Hamerslag, of the Enterprise Paper Box Company, San Francisco, gave informative talks on business conditions in their various localities.

Homer B. Vanderblue, Director of the Economic Service, Harvard University, then spoke on "The Business Outlook," and Edward N. Jackson, the first "still" photographer to reach Greenely Island folowing the landing of the marooned *Bremen* who Baron von Huenefeld, Captain Koehl and Major Fitzmaurice, described his trip by train, sleigh, dog-sled and airplane at an expenditure of $5,000 for just one week's sojourn.

Frank S. Records, treasurer of the National Paper Box Manufacturers' Association, presented the treasurer's report. W. Clement Moore, of Wolf & Co., Philadelphia, concluded the session with a valuable address on "Our Billion Dollar Management and Its Profit Performance."

Election of Officers

Officers for the ensuing year were elected, as follows: President, Walter E. Trum, E. J. Trum, Inc., 505 Court street, Brooklyn, N. Y.; Vice President, George J. Kroeck, Kroeck Paper Box Company, 1701 West Superior street, Chicago, Ill.; Treasurer, Frank S. Records, 802 Liberty Trust Building, Philadelphia.

Directors to represent the geographical divisions are: New England Division: E. F. Young, Young Bros., Providence, Rhode Island; Central Division: William P. Datz, Datz Manufacturing Company, 537 North Third street, Philadelphia; Eastern Division: M. Densen, Hess & Denson, New York City; Southern Division: W. B. Dickerson, American Tri-State Paper Box Company, 808 Seventeenth avenue, Nashville, Tenn.; Western Division: A. G. Burry, Fort Wayne Paper Box Company, Calhoun and Superior streets, Fort Wayne, Ind.

The Central Division elected officers at the regular annual meeting of the division held in conjunction with the National Association as follows: Chairman, Lester L. Dorn, Johnstown, N. Y.; Vice Chairman, A. Harry Scheffer, Charles J. Taylor Company, Baltimore, Maryland.

Members of the Advisory Board: L. Gordon, L. Gordon & Sons, Baltimore, Maryland; John C. Werner, E. G. Werner Sons

Company, 236 Grape street, Reading, Pa.; Frank Stone, Jesse Jones Paper Box Company, 1023 Vine street, Philadelphia; J. F. Friedel, J. F. Friedel Paper Box Company, 215 Wallace street, Syracuse, New York.

The Eastern Division re-elected all of their old officers.

Supply Men's Fair

Occupying the whole third floor of the Waldorf-Astoria, the Supply Men's Fair proved an unqualified success. The various exhibits were artistically arranged and the fair proved a great center of attraction during the convention. The organizations represented at the Fair were as follows:

American Lithographic Company, New York.
American Box Maker, Chicago.
Paul L. Baruch, New York.
L. Bischofsheimer & Son, Inc., New York.
H. R. Bliss Company, Inc., Niagara Falls, N. Y.
Box Board & Lining Co., New York.
Bridgman Corporation, New York.
B. H. Bunn Company, Chicago.
Butterfield-Barry Company, New York.
M. B. Claff & Sons, Randolph, Mass.
A. M. Collins Manufacturing Company, Philadelphia.
Consumers Glue Company, Inc., St. Louis.
A. S. Datz & Son, Philadelphia.
J. E. Doepel, Philadelphia.
District of Columbia Paper Mfg. Company, Washington, D. C.
Domestic Mills Paper Company, New York.
Glove Manufacturing Co., Inc., Frankford, Philadelphia.
Glucol Manufacturing Co., Cleveland.
L. F. Grammes & Son, Inc., Allentown, Pa.
Hampden Glazed Paper & Card Co., Holyoke, Mass.
R. R. Heywood Company, Inc., New York.
Hobbs Manufacturing Company, Worcester, Mass.
Holyoke Paper Corporation, New York.
Hobbs New York Service Station, Inc., New York.
Louis Jacobs, New York.
Knapp Company, Inc., New York.
Keller-Dorian Paper Co., Inc., New York.
M. D. Knowlton Company, Rochester, N. Y.
Matthias & Freeman Paper Co., Philadelphia.
Robert Minkow Machine Company, New York.
National Gum & Mica Company, New York.
New Jersey Machine Corporation, Hoboken, N. J.
B. F. Perkins & Son, Inc., Holyoke, Mass.
Pneumatic Scale Corporation, Norfolk Downs, Mass.
Potdevin Machine Company, Brooklyn, N. Y.
Paper Service Company, Philadelphia.
Pinco Papers, Inc., Camden, N. J.
Harry Edwin Roden and Ned Roden, Jr., New York.
Russia Cement Company, Gloucester, Mass.
Schugh Machine Company, Philadelphia.
Shears, The, Lafayette, Ind
Stokes & Smith Company, Philadelphia.
Trautman, Bailey & Blampey, New York.
Tamm & Company, New York.
Walther & Company, Inc., Brooklyn, N. Y.
Western Paste & Gum Company, Jersey City, N. J.
C. R. Whiting Company, Inc., Newark, N. J.
Charles W. Williams & Co., Inc., New York.
L. A. Zwiller, Peapack, N. J.

Bids for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—The Government Printing Office has received the following bids for 1,600 pounds of 24x36, red rope paper: Reese & Reese, at 10.45 cents per pound; R. P. Andrews Paper Company, 13 and 13.5 cents; Mathers-Lamm Paper Company, 12.5 and 11.5 cents; T. A. Cantwell & Co., 8.75 cents; and Virginia Paper Company, 11.37 cents.

Sutherland Paper Co. Plans Stock Increase

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 28, 1928.—Increase in the capital stock of the Sutherland Paper Company from $1,500,000 to $1,750,000, by the sale of 25,000 shares of common stock of a par value of $10 a share, is a proposition to be considered at a special meeting of the company's stockholders, called for 4 p. m., Monday, June 11.

According to the official notice of the meeting, the increase of the capitalization is approved by officers and directors on the basis that "a broader market for stock of this company would be desirable." Added is the statement: "We have received a proposition from Keane, Hirbe & Co., Detroit, for the sale of 25,000 shares of our stock to them at $16, stock to be listed by them on the Detroit and Chicago stock exchange." That proposition was approved at a meeting of the board May 21.

Stockholders are asked to waive their rights for the purchase of any of the additional stock. The official notice also states that the $400,000 received from the sale of the stock, will be used for corporate purposes which will increase the earnings of the company materially.

Keane, Higbee & Co. is the brokerage house that handled the Kalamazoo Stove Company's stock deal, buying 25,000 shares of stock in that concern at $46 a share and then advancing the price to $133 a share. Kalamazoo Stove stock is on the Chicago stock exchange at 117.

There is a very active demand for Sutherland Paper and the stock was being sought Thursday at $17, an advance of $2 over previous price, with very few sellers.

Urge Replies to Simplification Questionnaire

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 28, 1928.—H. R. Colwell, Simplified Practice Division, of the Department of Commerce, is making an effort to get additional answers to the questionnaire he sent out some time ago in connection with the paper simplification program. He is sending out a "follow up" letter asking those who have not yet replied to please do so.

"You, of course," says Mr. Colwell, "appreciate that it is important to present a comprehensive, cross-section report as to the effectiveness of the recommendation, in order that the Standing Committee may act intelligently in the revision or reaffirmation of the standards in question."

Additional Unit Planned by Zellerbach Co.

PORT TOWNSEND, Wash., May 24, 1928.—The National Paper Products Company, a Zellerbach concern, announces through A. B. Lowenstein, resident manager, that the directors of the company at a meeting in San Francisco decided to establish in this city a second kraft paper manufacturing plant.

The first unit of the big plant is now nearing completion. It will represent an expenditure of more than $3,000,000. When the two units are in operation the entire plant will be the largest kraft paper mill on the Pacific Coast, the announcement said. The new unit will double the size of the plant capacity specified in the original plans of the company.

Charles W. Trabue Dead

ALBANY, N. Y., May 26, 1928.—Charles W. Trabue, 59 years old and well known to paper mill men of Northern New York, died this week at the Albany Hospital after a few days' illness of pneumonia, having been stricken while a guest at the Ten Eyck Hotel. He has been calling on the paper trade of Northern New York for more than 20 years as representative of mill supply houses. He acted as Northern New York representative of the Republic Rubber Co. and later traveled for the Buffalo Gutta Percha Co. The deceased was a member of the Black River Valley Club of Watertown and the Watertown Lodge of Elks.

Essentials of a Wasteless Administration of a Wood Using Industry*

By Ruben B. Robertson [1]

It is sometimes easier to describe the elusive fragrance of a flower by telling what it is not rather than what it is. When we undertake to indicate what are the essentials of a wasteless administration of a wood using industry, here too, we find it often necessary to resort to a negative definition.

We know that the success of such an industry is not in sales resourcefulness alone; that it is not mechanical efficiency alone; that it is not in sound labor policy nor in financial set up alone; nor in raw material supply alone. In most cases the solution of the problem lies in the balanced and timely coordination of all the important factors mentioned.

Power of Timely Action

One of the most interesting, most mysterious, and most potent powers that Mother Nature exercises, is the power of timely action. It is this power which tells the seventeen-year locust that his long period of hibernation is over and that he can come forth into the light. The power that at the right time says to the cells of the human body, "you shall not make the right leg any longer than the left," or says to the cells of the nose at just the critical moment, "you shall continue your growth until the inherited racial characteristics of the individual have been complied with, and no more."

We can well afford to take a leaf from nature's book and endeavor to apply to industry some of the principles of timely coordination which we see on every side in nature's handiwork

All of us, familiar with forest work, have seen instances where untimely, uncoordinated activity have meant great economic waste. We have seen splendid oak trees felled in the woods, the bark stripped off and sent to the tannery while the peeled logs were left to rot upon the ground. There was a market for the bark but no simultaneous market for the log; conversely, we have seen hemlock logs cut for lumber and the valuable bark wasted because at the moment the tannery could not provide a market.

We should not lose sight of the fact that forest products are perishable and that coordinated use calls for simultaneous—not successive—development. In most cases it is "now or never," if waste materials are to be utilized.

And this brings us face to face with a danger that must not be ignored. If we develop for waste utilization without due regard to market conditions, that is if our development is untimely, we are likely to "pour out the baby with the bath," send the good after the bad.

It is better to waste raw material of potential value than to aggravate the waste by untimely capital expenditure and thereby lose not only the material but the accumulated savings which we call capital, as well.

Examples of Coordination in Europe

In the forest industries of Europe we find many examples of coordinated use that mean almost complete utilization. We find the sawmill, the sulphite mill, the sulphate pulp mill, the alcohol plant, the charcoal plant and the plant for the utilization of small sizes of lumber, all operated in conjunction with each other.

We are beginning to see more frequent examples of this sort of complete use in this country. One of the best examples being the group of industries operated by the Weyerhauser interests at Cloquet, Minn., where, in connection with their sawmills, they find commercial use for the portions unsuited to lumber in such products as clothespins, box shooks, sulphite pulp (using undersized spruce), soda pulp (using poplar below lumber diameter), sulphate pulp (using pine logs of small diameter), balsam wool made from pulp and sawmill wastes, and fiber board also using sawmill waste.

At Bogalusa, La., is found another instance where very complete utilization has been worked out through the coordinated management of pulp mill, sawmill and turpentine plant. Here coordination makes possible a permanent forest policy and the acceptance of the principle of cutting for sustained yield which would not be commercially feasible for any one of the three industries working independently or at different times.

Coordination at Canton

In the plant with which I am connected at Canton, N. C., we endeavor to apply this principle of coordinated use as completely as business conditions permit. Our plant is located in the section of the Southern Appalachians where chestnut timber is in abundant supply. Originally the tanners were supplied with chestnut tanning material through processes which required the burning of the chips for fuel after the tannin had been removed. Through modifications of the extraction process and corresponding modifications of the usual pulping processes, it became possible to use the same chestnut chips for both tannin supply and pulp wood supply. In some instances the spent chips are converted into bleached soda pulp suitable for the highest grades of paper, in other instances they are converted into paper somewhat similar to straw board.

The installation of the sulphate process of pulping permitted us to offer to those cutting in pine forests an outlet for their slab wood and for the smaller sizes of logs. From these forest by-products, we obtain not only chemical pulp, but also naval stores of some considerable value.

In our case the coordination of a plant for the manufacture of tanning materials with a plant for production of sulphite pulp permits the use of the bark of such woods as hemlock and spruce for tanning material and of the wood itself for pulp.

The alkaline processes of pulping also permit us to offer to sawmill operators market for slabs and forest thinnings from such hardwoods as poplar, maple, gum, etc.

Our ambition is to keep idle the waste burners which generally accompany the sawmill operation, an ambition, which because of the great difficulty involved in keeping the supply of, and the demand for, such products in economic balance, is not always realized.

Diversification of processes for complete use of forest products, in our plant, involves production and sales of such widely different products, as sulphite pulp, sulphate pulp, soda pulp, white papers, wrapping papers, tannic acid, adhesives, turpentine and rosin products, caustic soda, chlorine, lumber and lime. The obvious difficulty involved in keeping this rather wide range of products in profitable relation to each other, furnishes our excuse for some of the wastes which still occur.

Conservation Must Be Profitable

Real conservation of our forest resources will not come until conservation becomes profitable. Every step towards profit through by-product utilization accordingly widens the margin that is available for the expenses of conservation and brings the day of its realization closer. The unprofitable industry never can afford to take care of the natural resources which it is handling, in the way which public interest requires.

It is said that "Facts are the scarcest raw material of industry."

* Address before the meeting of the National Committee on Wood Utilization.

[1] President of the Champion Fibre Co., Canton, Ohio.

The Vickery Doctor

for

Wire Rolls
Press Rolls
Breast Rolls
Dryers
Yankee or M. G. Dryers
Calenders
Super Calenders
Sizing Rolls
Cleaning Rolls
Cooling Rolls
Jacket Couch Rolls

If you believe that you can make better paper at less trouble and expense with clean rolls than with dirty rolls you need Vickery Doctors. They keep every roll always clean.

BIRD MACHINE COMPANY

BIRD MACHINERY

South Walpole Massachusetts

1743

We act too frequently on impression and rumor rather than on facts systematically gathered and scientifically used.

At a recent meeting of the paper trade one of the speakers in emphasizing the greater need of cost data facts, said, "You have a mill and you wish to operate it; in order to operate it, it is necessary for you to have raw material, so you go into the woods and buy it; you do not know how much you buy, and you do not know how much you pay for it, and you have perhaps a sort of feeling that you are not going to get all you pay for. Eventually some of it comes to the mill, but you do not know how much. It is necessary then to prepare it for use, and in the preparation you lose a certain amount but you do not know how much. Then you take some of your prepared material, but you do not know how much, and convert it into pulp; but you do not know how much. Then you take some of the pulp, but you do not know how much, and you run it through your system where you lose a certain amount; but you do not know how much. Finally you get some paper. You take some paper and some moisture and wrap it up together, weigh the paper, the moisture and the wrapper—and sell it for a ton of paper. Then the manager comes around and says to the accountant, "Tell me how much that ton of paper has cost, so that I can tell my board of directors how much profit has been made on it."

Performing a Great Service

The National Committee of Wood Utilization of the Department of Commerce is performing a very great service in disseminating information regarding non-used materials, furnishing the facts to industry to relieve it of that vagueness of knowledge about which our cost accounting friend complained.

Much is being done by private industry in research and much valuable information is being gathered, however, in the nature of things no satisfactory general inventory in public interest can come from private sources. The Department of Commerce is in splendid position to serve as a fact gathering agency.

The recently completed survey in Virginia and the survey now being carried on in cooperation with the State of North Carolina to provide an inventory of non-used forest materials, promise interesting and worth while results.

Prevention of Over Development

It seems to me, however, that it should be just as important a function of our committee to supply information as to what unused materials should not yet be used, as to supply information as to what may now be used. The committee may well use its powers to some extent for the prevention of over-development.

When one finds a great human need and then goes out and finds the means of satisfying that need he is often credited with genius. Observation of stock market and other business activities tell us what a slender margin of time exists between what is recognized as a stroke of genius and what is recognized as folly. Timely action based on knowledge of simple facts will no doubt explain instances of striking success which we ascribe to genius. In the matter of utilization of forest materials we cannot emphasize too strongly the economy of timeliness.

Japanese Paper Production Increases

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—The Japanese Paper Manufacturer's Association announces a production of 49,325 short tons and sales of 52,734 tons by members' mills during the month of February, as against 48,882 tons and 48,427 tons respectively during the preceding month and 44,705 tons and 43,158 tons respectively during the same month of last year. Approximately one third of the February output consisted of news print paper, while best grade printings represented 16 per cent and ordinary printings 13 per cent of the total output. During the same month 18,792 tons of chemical pulp and 22,037 tons of mechanical pulp were produced in association mills.

The Pusey & Jones Make Improvements

Since the reorganization a year ago, officers of The Pusey & Jones Corporation have been formulating plans for general improvements throughout the plant, with particular attention given to the paper mill machinery departments.

Contracts have recently been let for several new buildings which will replace obsolete structures rather than increase the size of the plant. Tools and machinery of high efficiency will be installed and the work routed in a straighter line than is possible with the existing layout.

Fire hazards are being materially reduced, safety devices installed at all danger points and further provisions made for the comfort and convenience of their employees. All work is being carried on as fast as possible, without delaying production in any department.

Details of the new building, etc., while not available at present, will be released for publication at an early date.

Paper Mill Executive Honored

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., May 28, 1928.—The Capitol District Traffic Association has elected as officers for the coming year a number of paper mill executives. These include H. L. Acker, of the Albany Perforated Wrapping Paper Company, vice president; C. L. Ferguson, traffic manager of the Eastern Tablet Corporation, secretary, and Donald G. Kibbery, traffic manager of the A. P. W. Paper Company, treasurer.

The third annual dinner of the association was held in this city recently, Mr. Kibbey being assistant general chairman of the dinner committee, which included also Messrs. Acker and Ferguson.

Appoint Specifications Committee

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—The Joint Congressional Committee on Printing, at its last meeting for this session of Congress, approved the appointment of a paper specifications committee to draw up specifications for the Government Printing Office for paper for the fiscal year beginning March 1, 1929.

This is the usual committee, of which F. P. Veitch, of the paper laboratory, Bureau of Chemistry, is chairman, which meets during the summer to draw up the new specifications. The Joint Committee requested that the new specifications be ready for it when Congress convenes early next December.

Manning Paper Co. Increases Capital Stock

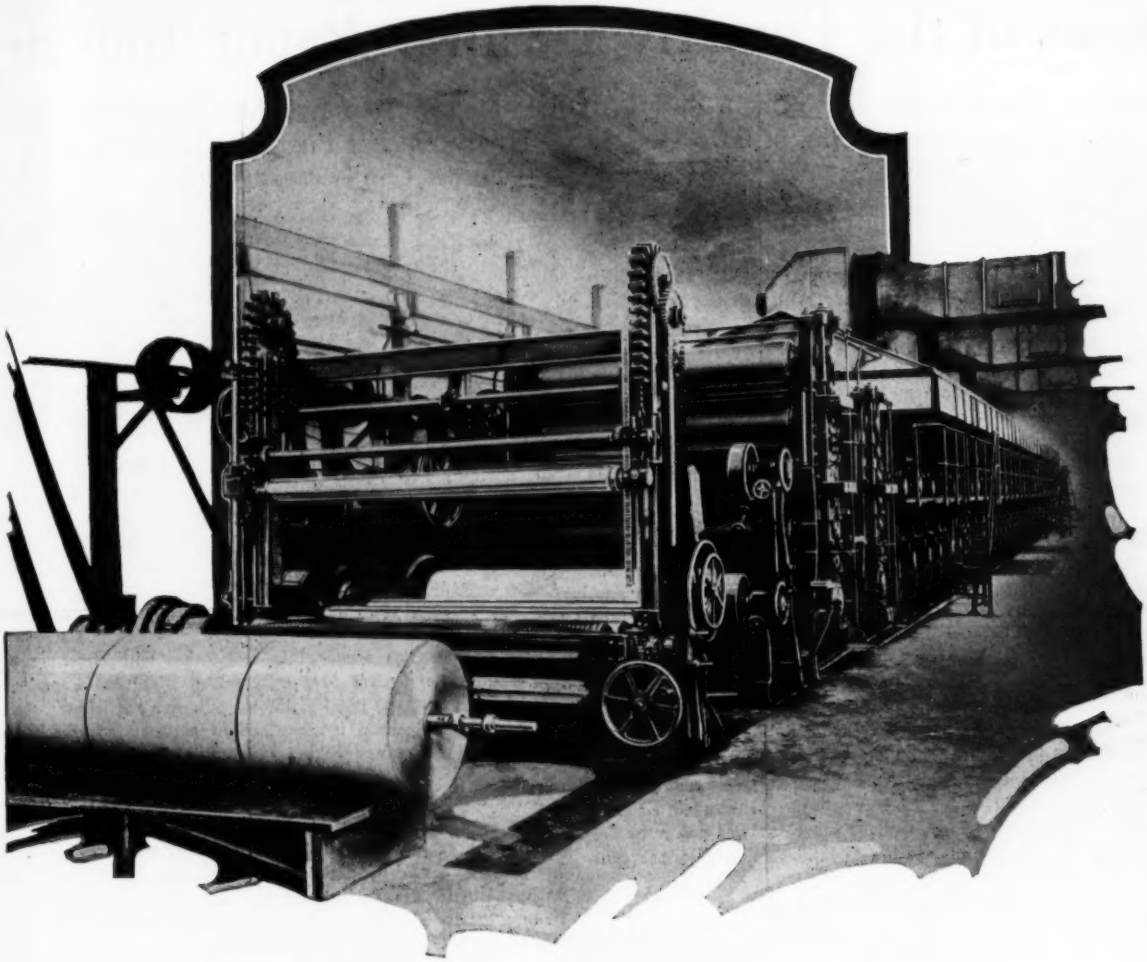
[FROM OUR REGULAR CORRESPONDENT]

TROY, N. Y., May 28, 1928.—The John A. Manning Paper Company, of Troy, Green Island and Watervliet, has increased its capital stock following authorization by the stockholders of the company. According to notice filed recently with the Secretary of State the company has increased its stock from 15,000 shares, including 3,500 shares of preferred at $100 a share and 11,500 shares of common stock with par value of $100 each, to 54,175 shares of common stock having no par value. The notice of stock increase was filed through Murphy, Aldrich & Guy, who are located in this city.

Mr. and Mrs. Karls Presented Cocktail Set

[FROM OUR REGULAR CORRESPONDENT]

THREE RIVERS, Que., May 28, 1828.—William Karls, general superintendent of the St. Lawrence Paper Mills Co., Ltd., and Mrs. Karls on Thursday of last week were presented with a beautiful chest of flat silverware, and a very efficient and handsome type of silver cocktail shaker with goblets. The gifts were presented by the employees of the St. Lawrence Paper Mills Company, Limited, on the occasion of the twenty-fifth wedding anniversary of Mr. and Mrs. Karls.



Eliminate Operating Difficulties

Progressive design is of major importance in the paper machine of today, for profits are now largely dependent on uninterrupted, trouble-free performance. One sound principle of mechanics, being practiced more today than ever before, is the elimination of parts requiring constant attention or delicate adjustment.

The illustration shows a new six cylinder Keystone Board Machine which trims 112 inches. This high speed cylinder machine replaced an old 80 inch machine.

Base your own judgment on facts. An investigation of Downingtown Machines (Fourdrinier and Cylinder) will convince you that only utter neglect can prematurely affect their trustworthiness.

Our Products Meet Our Promises

DOWNINGTOWN Board Machine

Downingtown Mfg Co. Downingtown Pa.

News of the Fox River Valley Paper Industry

Appleton Coated Paper Co. to Begin Building Operations On New Finishing Room Within Next Thirty Days—Financing of Two New Large Hydro-Electric Plants Built Last Year on Menominee River, Arranged For—Forest Conservation Plans

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 28, 1928.—Building operations will be started within the next thirty days on a new finishing room for the Appleton Coated Paper Company, of Appleton. The addition will be 240 feet long and 105 feet wide, with one story and basement, according to announcement of Charles S. Boyd, president and general manager.

Approximately $125,000 will be spent on the improvement. The construction will be of concrete, brick and steel. This does not mean an expansion of the productive facilities, but merely provides much needed room for increased operating efficiency. The company increased its output last year by adding another coating machine.

Northern Electric Bonds Issued

Bonds have been placed on the market for the financing of the two large hydro-electric plants built last year on the Menominee River near Amberg, Wis., by the Northern Electric Company. The issue amounts to $4,000,000 and is offered jointly by the electric company and the Northern Paper Mills, of Green Bay, Wis. This is a first mortgage at five per cent secured by the respective properties of the two companies, with an estimated valuation of approximately $8,000,000.

The two power plants have an aggregate installed capacity of 22,230 h.p. and 81 miles of high voltage steel power transmission line, extending to Green Bay, Wis. Current from one of the plants has been sold under contract to the Milwaukee Electric Railway and Light Company, and the other supplies power to the Northern mill. The bonds mature serially so that 37½ per cent of the loan will be retired in twenty years.

Wisconsin Forestry Plans Approved

Final approval has been given the establishment of federal forest areas totaling 500,000 acres in five northern Wisconsin counties. This move is considered one of the most important steps yet taken in conserving the timber and pulpwood supply for the future.

Considerable effort was necessary to induce the boards of Bayfield, Forest, Oneida, Vilas and Price counties to approve the sale of these lands to the United States Government and thus remove them from the tax roll. Another obstacle turned up about a week ago when the state land commission refused the necessary sanction of the transaction because lands securing school loans were involved.

This was adjusted by exempting such lands from the areas transferred, and the commission has given its consent. The forestry authorities at Washington have been informed that the "deal" is completed so they can take steps to isolate these lands for the future.

Decline of Print Paper Explained

Reasons for the decline of the print paper industry in Wisconsin were explained by R. M. Radsch, superintendent of the Thilmany Pulp and Paper Company, of Kaukauna, Wis., in an address last week before the Rotary Club at Menasha, Wis. Depletion of the forest reserves in Wisconsin, Minnesota and Michigan has had much to do with the shifting of the news print industry to Canada, he said. Advantages in wages and prices of raw material in the southern and western sections of the United States have combined to offer serious competition to the industry in Wisconsin. These two elements have kept Wisconsin from enjoying proportionate growth as well as causing one mill after another to go to higher grades. A definite reforestation program, he said, is the only way to conserve the industry for Wisconsin.

Fox River Valley Exports in Demand

Experienced paper makers from the Fox River Valley are being supplied to new mills in other parts of the country. Nineteen men left Kaukauna last week in one delegation to be employed in the Thilmany Pulp and Paper Company's new mill at Long View, Wash. The Kimberly-Clark Company has also transferred a number of trained men from its various mills to its new scene of operations at Kapuskasing, Ont.

Paper Mill Workers Pass On

Two deaths of paper mill workers occurred last week. Fred Schinjack, who had been a pulp maker for some time at the Marinette and Menominee Paper Company, died at Marinette, Wis., of pneumonia. Irwin Deneys, employed by the Fort Howard Paper Company, of Green Bay, Wis., died following an operation for appendicitis. He was 22 years old and had been married five weeks.

One accident has occurred in connection with construction of the new digester plant of the Interlake Pulp and Paper Company, of Appleton, Wis. Rudolph Fischer, a laborer, had a shoulder broken when he was caught between a cement mixer and a wall when the machine was being moved.

E. A. Peacock Missing

W. J. Peacock, personnel director of the Northern Paper Mills, Green Bay, Wis., and prominent in national safety work, is receiving the sympathy of his associates over the apparent loss of his brother, E. A. Peacock. The latter made an automobile trip to Los Angeles, Cal., about a month ago and has disappeared completely. It is believed that he met with an accident which caused his death. He is known to have reached San Diego, but is thought to have lost his life in one of the deep gorges between there and Los Angeles.

To Build Moore Speed Crane

MANITOWOC, Wis., May 28, 1928.—The Moore Speed Crane will now be built and sold by the Manitowoc Engineering Works, an arrangement recently effected with the Moore Speed Crane Company, Chicago, who continue as sales representatives in Chicago for Manitowoc. In New York City the authorized sales agents for Manitowoc are Forsythe Brothers, 30 Church street.

An extensive manufacturing program on the Moore Speed Crane is planned by the Manitowoc Engineering Works, which has large scale manufacturing facilities.

Laidley & Selby Add Coarse Paper

MORGANTOWN, W. Va., May 28, 1928.—Laidley & Selby, doing a wholesale and retail stationery business here, have added coarse paper and twine to their present business.

H. T. Jaffe, who formerly represented the Chatfield & Woods Company, out of its Pittsburgh branch in West Virginia and Ohio, is now affiliated with Laidley & Selby in the capacity of general manager of this department.

Felix Pagenstecher's Condition Improving

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., May 28, 1928.—Felix Pagenstecher, president of the Bryant Paper Company, who has been seriously ill for several weeks at New Borgess hospital, is still confined at that institution, though his condition shows improvement.

LOOK SOUTH

BASTROP, Louisiana: "Gator-Hide Kraft" four big machines, and Dilts New Type beating engines.

CAMDEN, Arkansas: (International Paper Co.) Two 212" Kraft Machines, and Dilts New Type Beaters.

HODGE, Louisiana: (Advance Bag Company,) widest machine in the United States, 242" on kraft, and Dilts New Type Beaters.

TUSCALOOSA, Alabama: (E-Z Opener Bag Co.) 230" Kraft Machine and Dilts New Type Beaters.

"Your Paper is made in your Beaters"

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE ~15 PARK ROW~ NEW YORK CITY

New York Trade Jottings

F. C. Clark was a prominent visitor to New York last week.

* * *

The E. A. Stone Company, Inc., of 67 West 44th street, announces that H. P. Brock is no longer connected with their organization.

* * *

Col. Percy B. Wilson, vice president of the Spanish River Pulp and Paper Mills, Ltd., and chairman of the Canadian Pulp and Paper Association, was a prominent New York visitor last week.

* * *

H. P. Gould, president of the Donnaconna Paper Company, Ltd., and president and treasurer of the Gould Paper Company, spent a few days in New York last week. He was accompanied by his wife.

* * *

Carlo Moriondi has been delegated by the Italian Government to study the improvements in paper manufacturing methods in the United States. Mr. Moriondi is a consulting engineer and will visit several paper and pulp mills in this country prior to his return to Italy.

* * *

R. G. Macdonald, secretary of TAPPI, and E. D. Naylor, secretary of the Writing, Tissue and Cover Paper Manufacturers Association, were the speakers at the closing banquet of the Connecticut Valley Section of the Cost Association which was held at the Strathmore Inn, Woronoc, Mass., on May 24.

* * *

Allen Abrams, of the Marathon Paper Mills, Rothschild, Wis., R. H. Laftman, of the Bogalusa Paper Company, Bogalusa, La., E. C. Tucker, of the Crocker-McElwain Company, Holyoke, Mass., and W. A. Krimmel of the Hammermill Paper Company, Erie, Pa., were in New York last week to attend the Executive Committee meeting of the Technical Association.

* * *

Hector G. Paul, Beechwood, South Bridge street, Bathgate, Scotland, who has been visiting mills in this country for some time, returned to England aboard the steamer *Homeric* last Saturday morning. He is going to India shortly to be in charge of a new mill being erected there, the Punjab Pulp and Paper Mills, Jagadhri, Punjab, India, which is a few miles north of Delhi, and which will use chiefly sabai grass.

* * *

National City Company, Peabody, Smith & Co., Inc., Peabody, Houghteling & Co., Wood, Gundy & Co., Inc., and Royal Securities Corporation are offering at $102 a share $10,000,000 additional Abitibi Power and Paper Company, Ltd., 6 per cent cumulative preferred stock. Proceeds will be used to retire certain funded indebtedness and preferred stocks of subsidiaries preliminary to issuance of mortgage bonds to refund all other funded indebtedness at a substantial saving in annual interest and dividend requirements.

Binder Board Simplification Program

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—Announcement has been made by the Simplified Practice Division of the Department of Commerce that it has received 80 per cent acceptances in connection with the simplification program of binder board. The Division is notifying manufacturers, distributors and users that the program is effective as of March 1, this year.

R. F. Engelhardt Meets With Accident

THOMSON, N. Y., May 28, 1928.—R. F. Engelhardt, superintendent of the United Paper Board Company, had the misfortune to lose his right thumb Tuesday, May 22. It became caught between the rolls on the paper machine. He was taken to the Saratoga Hospital where Dr. G. Scott Towne has charge of it.

Paper Salesmen Hold Tissue Meeting

There was an excellent attendance at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, held at the Canadian Club, New York, last Monday.

R. B. MacMorland, of MacMorland and Rogers, was the principal speaker and his address, which was highly appreciated, was followed by an interesting general discussion of merchandising problems pertaining to the metropolitan area.

Dr. E. O. Merchant ably demonstrated a chart based on the Harvard Index, showing the trends of speculation, business and money.

Next Monday the Salesmen's Association of the Paper Industry will hold a printing ink luncheon at the Canadian Club, New York, when Arthur S. Allan, consulting power engineer, of 101 Park avenue, New York, and chairman of the Standardization Committee of the American Institute of Graphic Arts, will discuss "Standardization of Process Colors." He also promises to bring an interesting display with him.

A. S. M. E. or Better Boilers

The A. S. M. E. or Better Boilers issue of *The Safety Valve*, presents descriptions of the various types of Heine and Ladd Boilers.

As is generally known the primary intent of the A. S. M. E. code is to establish minimum requirements as to material and workmanship. The code permits each manufacturer to exercise his judgment as to how far he wishes to exceed these minimum requirements in order to produce boilers having the longest, safest and most economical life. This issue of *The Safety Valve* presents some of the points in which the regular construction of both Heine and Ladd boilers exceed the requirements of the code. Copies of this issue will be sent on request to those interested.

J. L. Stille Made Manager of Sales

J. L. Stille, formerly manager of sales of the Chicago branch, has been appointed sales manager of the Continental Paper and Bag Mills Corporation, which is controlled by the International Paper Company. The Continental Corporation has two plants in Maine, one in New Hampshire, four in New York, one in Pennsylvania, two in Wisconsin and one in Michigan, as well as two plants in Canada—one at Ottawa and the other at Elsas, making a complete line of wrapping paper, paper bags and tissue papers. At present the corporation is engaged in an extensive program of improvements at its various mills in line with its policy of keeping its plants thoroughly up-to-date.

Thermodynamics Applied to Paper Drying

The Farnsworth Company, engineers and manufacturers, of Conshohocken, Pa., have just issued a new illustrated bulletin, entitled, "Thermodynamics Applied to Paper Drying."

Farnsworth Paper Drying Systems are comprehensively described in this valuable booklet. The relation of a good oil separator to increased drying or heating capacity is thoroughly explained.

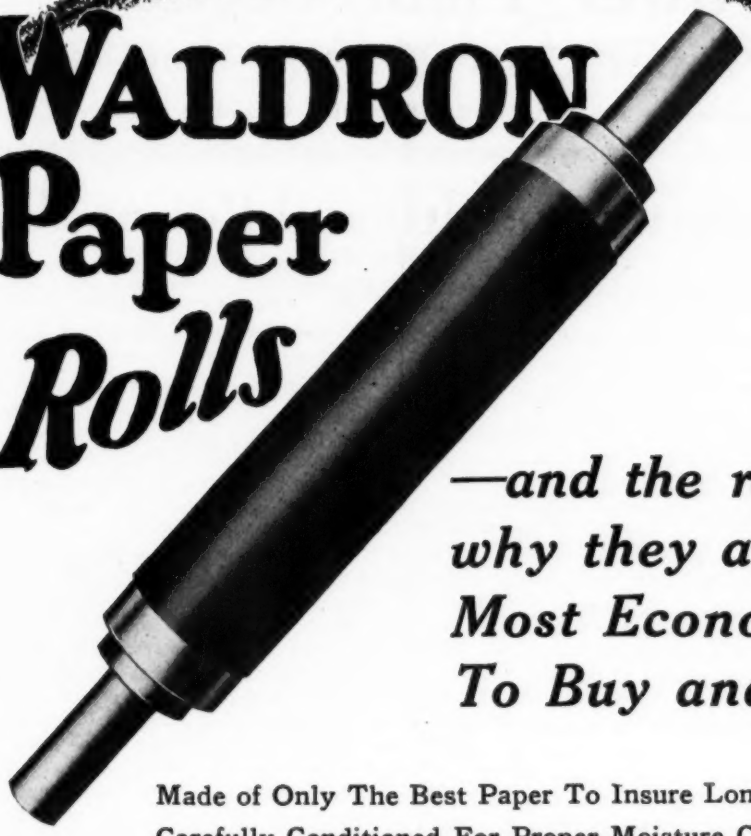
Manufacturers desiring more production with less fuel, which are two of the most important things in paper mills, will find much information of general interest in this new bulletin.

Paper Mill Superintendent Injured

[FROM OUR REGULAR CORRESPONDENT]

THOMSON, N. Y., May 28, 1928.—Thomas Englehardt, superintendent of the plant of the United Paperboard Company, met with an accident at the mill this week which resulted in the loss of his right thumb. While engaged near the paper machine his thumb became caught in the rolls on the machine. He was given first aid at the mill and later was taken to the Saratoga Hospital, where the crushed thumb was amputated.

WALDRON Paper Rolls



—and the reasons why they are the Most Economical To Buy and Use!

Made of Only The Best Paper To Insure Long Life.

Carefully Conditioned For Proper Moisture Content.

Shafts and Heads Exactly Proportioned To Withstand The Tremendous Pressure Used In Compressing Waldron Rolls.

Held Under Pressure Proper Length Of Time To Thoroughly Meet Our Exacting Tests for Hardness and Head Balances.

Write for your copy of this instruction sheet

A Copy Will Be Gladly Sent To You On Request!

How a Paper Roll Should be Run In!

JOHN WALDRON CORPORATION

MAIN OFFICE AND WORKS, NEW BRUNSWICK, N.J

208 W. Washington St. CHICAGO

30 East 42nd Street NEW YORK

Power Plant Section

Reducing Power Costs Through Unit Treatment

Conducted by REGINALD TRAUTSCHOLD, Consulting Engineer

Modernizing the Mill and Power Plant

Temperature Recorders in Paper Mill Service

There is probably no industry, certainly no leading industry, so dependent upon multiplicity of thermal control and regulation as that of pulp and paper making. At the same time, there is no phase of the business affording greater opportunities to cut production costs in modernizing the mill than that of introducing approved applications of modern temperature recorders and other instrument controls. The industry at large appreciates this, yet to date there appears to have been comparatively little standardization in respect to ways and means of securing the desired results. Progress is being made, it is perfectly true, but in a more or less haphazard manner. This may very likely be due to a lack of general familiarity with the devices, instrument controls, which can be used and for what specific purposes such mechanisms have demonstrated ability to reduce production costs by material stimulation of output, courtailment of extravagances and betterment of product.

Situation in Paper Industry

The situation in the paper industry is most auspicious, however, and full of promise. A chance remark by one of the leading manufacturers of indicating, recording and controlling instruments is strong confirmation of this, for his statement was "It's a funny thing that in the paper industry we have dozens and dozens of controller users, maybe twice or three times the number of recording thermometer users. In most industries, its the other way, they start with ordinary industrial thermometers, then buy recorders, then completely modernize their processes with automatic control." Another of the prominent instrument manufacturers expressed the opinion that the paper industry was distinctive in showing not only evidence of ability to buy such instruments but very ready to do so. These are certainly favorable signs and emphasize the need of posting the industry, that is the mills still in need of such information, with plain statements of where and why to install, not only temperature recorders, but vacuum and pressure gauges and other instruments.

It is proposed, consequently, to devote these pages from time to time to expositions of approved varieties of instrument equipment and their applications in the different types of pulp mills and in the paper mill proper, drawing attention to various devices which have been successfully employed for specific operations, and profitably. In the present issue, as this seems advisable, only a bird's eye view of temperature-recorder applications in general will be presented, mostly of the thermometer class, reserving more detailed consideration of these instruments, of pyrometer controls and of other instruments for the more specific discussions to follow.

TEMPERATURE-RECORDER APPLICATIONS OF PROFIT

- Beaters
- Digesters
- Ground wood tanks
- Desuperheated steam lines
- Boiler feed water
- Hot wells
- Bleaching tanks
- Dryer temperatures
- Bisulphite liquor
- Outdoor temperature
- Digester blowouts
- Bleach powder storage rooms
- Regulator boxes
- Wire pits
- Dryer condensate
- Sweay rolls
- SO_2 gas, etc.

Temperature-Recorder Application on Beaters

During the beating of the pulp, it is now quite generally recognized that it is highly desirable to have a continuous record of pulp temperatures. This will indicate the intensity of the beating and clearly establish the duration of each beater cycle, visualizing the rate of temperature rise and showing whether the beater roll has been let down too suddenly or whether, by any mischance, the cycle may have been interrupted. The temperature of the pulp during the beating process also greatly influences the degree of hydration of the pulp and also of the final characteristics of the paper which may be made from it.

Although the beating operation does not lend itself very well to automatic control, or perhaps for such very reason, since the permissible temperature tolerances are quite close in the preparation of quality stock, recording thermometers are used to decided advantage, to guide the machine tender in keeping the pulp temperature within the proper limits. The greatest danger in beater operation is to allow the temperature to become too high. The point below which the temperature should be kept in ordinary beating operations, though considerably influenced by the class of stock beaten and with established mill practices, is customarily placed at from 90 to 130 degrees Fahrenheit. On color work, however, it is sometimes necessary to raise temperatures to 190 or even 200 degrees in order to make sure that the color is thoroughly mixed and cooked into the pulp.

The advantages accruing to the use of these temperature-recorders in such service are obvious, for it is the information they furnish which enables the beater tender to produce stock close to sample and specification. The visible record also measures the day by day production of each crew on the various grades of paper produced, for each time a dump is made the recording graph provides a distinctive tell-tale drop.

Applications for Ground Paper Pulp

In the production of quality wood pulp, the question of temperature control is also of very considerable importance and exerts much influence upon the character of the paper subsequently produced. Cold grinding is largely responsible for the formation of "bundles" instead of single fibers, while hot grinding, not only wears the stones excessively, but produces a so-called "flour pulp," which is quite worthless in the manufacture of high grade papers. To avoid these dangers, a temperature-recorder is well nigh indispensable or, if automatic control is exercised, an approved type of temperature-regulator.

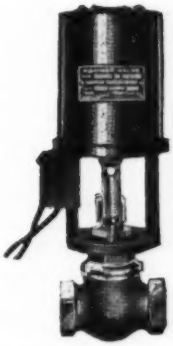
The temperature-recorder not only provides an accurate means by which the operator can determine the stone temperature, but as he knows that the instrument's chart furnishes conclusive evidence of the conditions pertaining at all times he is led to pay close attention to the stone temperature. This point is thus emphasized to focus attention upon the advisability of installing

Maintain Constant Temperatures with *Engelhard Automatic Control*

UNIFORM temperatures and fuel economy are the rewards of close, accurate temperature control. Oil lines, gas lines, air lines, oil and gas, air and gas, also electric furnace temperatures can be automatically and accurately regulated to maintain any desired temperature for all commonly encountered pressure ranges with Engelhard instruments.

Mercoid Control

The equipment includes Engelhard Pyrometers or Thermometers, the well-known Engelhard Wall Indicator and Type S Recorder, the Mercoid Control Switch, and valves suitable for the specific purpose. The Solenoid Valve shown, has, among other features, the safety factor of closing should the current fail.



Solenoid Valve

Type S Recorder

Connects with any Engelhard measuring instrument. Works electrically. Makes a chart of 1 to 6 different readings in black or in color.

Call in our Engineering Service Department to survey your problem. We have been manufacturing industrial instruments for 30 years and will give you, without obligation, the benefit of our experience. Many paper mill superintendents have found the free advice invaluable.

"Knowledge is Power"

On request, without obligation, we will send you illustrated bulletins describing performance and use of our instruments. Please check subject desired below.

- ☐ **Temperature Measurement**
- ☐ **Automatic Temperature Control**
- ☐ **Automatic Gas Control**
- ☐ **SO_2 Analyzer and Record**
- ☐ **CO_2 Analysis and Record**

Clip this coupon to your letter head and mail today.

Charles Engelhard, Inc.

90 Chestnut St., Newark, N. J.

Branches: Boston, New York, Pittsburgh, Cincinnati, Cleveland, St. Louis, Los Angeles, and General Supply Co. of Canada, Ltd., Montreal, Ottawa, Toronto.

temperature-regulators whenever possible. In this case, such an instrument would operate on the water supply and by automatic regulation keep the stone temperature between narrow limits, say between 140 and 145 degrees. Such control, whether exercised by the operator on the information supplied by the temperature-recorder or by an approved temperature-regulator, will insure good ground wood and keep the stones from burning. Sudden temperature changes being avoided, the dangers of cracked stones, with the liability of serious damage to the grinder, are also virtually eliminated.

The behavior of the grinders is also effectively shown by the temperature of the pulp in the ground wood tank, or pit. If this at any time exceeds from 130 to 190 degrees, it is pretty conclusive evidence that something seriously wrong is happening to the grinders. A temperature-recorder at this location, hence, may prove a highly profitable investment.

Temperature Regulation for Digesters

Temperature control is also very important in the operation of digesters in both sulphite and soda and sulphate pulp mills, for without constant knowledge of temperature conditions, as well as pressures, the operator can have no actual knowledge of what is really taking place within the apparatus. A temperature-recorder or a combined temperature and pressure recording instrument, consequently, is very much more satisfactory equipment in such service than depending upon a simple temperature indicator, i.e., thermometer, and pressure gauge as is so often done. The continuous and permanent record is naturally of the greatest assistance to the operator and enables him to produce first-class pulp.

In the case of the sulphite mill, the recommended temperature-recorder is one having a working range of from 275 to 320 degrees Fahrenheit, the pressure working range being from 70 to 90 pounds. Where a combination instrument of the temperature-pressure recording class is employed in the sulphite mill, the same working ranges are called for, of course, but in the soda and sulphate mill, these critical measures are somewhat higher. The customary approved temperature is from 300 to 335 degrees and the range for the pressure, from 70 to 125 pounds.

Bleach Temperatures

The temperature at which the bleach is mixed and at which it is used should also be subjected to careful regulation, for these measures greatly effect the time required for satisfactory bleaching by accelerating or decelerating the chemical actions involved. Furthermore, in spite of the utmost care given to standardizing the duration of the bleach, the pulp cannot be uniformly whitened unless the rate of bleaching is kept very nearly constant, that is, the temperature of the bleach maintained substantially constant. A temperature-recorder, obviously is the logical aid in such case for maintaining the desired uniformity of temperature and from the information it affords makes possible savings in both quality considerations and in the amount of bleach which has to be used.

In the sulphite mill, if the bleach is made from liquid chlorine, it is advisable to provide the hot water bath of the chlorine cylinders with a temperature-recorder having a working range of between, say, 50 and 150 degrees. It is also good practice to equip the bleaching tanks with a similar instrument having a somewhat higher working range, usually 70 to 115 degrees. In the soda and sulphate pulp mill, similar opportunities exist of effecting worthwhile savings by the installation of such instruments. For the bleaching tanks in such mills, however, the working range of the temperature-recorder is advisedly somewhat higher, from 90 to 140 degrees.

In the sulphite mill there are also to be found some of the most interesting applications of gas and temperature recorders, in which, judging from a survey made a few months ago by the Technical Association of the Pulp and Paper Industry into the commercial results secured with such instruments, the mills only agree in that the use of satisfactory instruments of this kind would be highly desirable. Some of these applications, therefore, may well be touched upon now and discussed in greater detail in subsequent issues.

Chief interest in the temperature-recorders employed doubtless lies in their application to SO_3 gas coolers and in their services in facilitating the control of the numerous critical temperatures in connection with the economical handling of the gas. The temperature of the SO_3 entering the cooler is naturally very high, necessitating the use of thermo-couple units, the working range of which have to be from 1,450 to 1,800 degrees Fahrenheit. This in itself is a somewhat complex and intricate question, largely a matter, however, of suitably calibrating the thermo-couple whenever new elements have to be installed and in the proper protection of the tubes. For this reason, it is perhaps best to defer exposition of such devices until specifically taking up the application of control instrument installations in the sulphite pulp mill. However, it may be stated that it is found that the SO_3 gas should be cooled as rapidly as possible between the temperatures of 900 and 200 degrees Fahrenheit, else an excess of sulphuric acid is formed which is not only very undesirable, but quite difficult to remove.

The temperature of the SO_3 gas leaving the cooler is important also, making the installation of a temperature-recorder highly desirable, one with a working range of between 70 and 100 degrees being recommended. The maintenance of the suitable temperature being a question of controlling and regulating the temperature of the water entering and leaving the cooler, the effective control of the temperature of this cooling medium is obviously of prime importance. An increase of 60 degrees in the temperature of the absorption water can increase the solubility of the SO_3 by as much as 50 per cent, or even more. It is also found that a strong acid makes a better and cheaper pulp than a weak one, so the absorption tower with suitable temperature control becomes one of the primary steps in the preparation of a good acid. A temperature record of the bisulphite liquor also serves to check the efficiency with which the absorption and cooling processes are conducted.

Control of Dryer Temperatures

Many dryers control the moisture in the sheet nowadays by the drum, or roll, temperature and when this is the practice the temperature-recorder checks the operation of the regulator. Also, in conjunction with a pressure recording gauge, such instrument is used to show the operation of the drip-system and of the dryer temperature regulator. The working range, temperature, of the dryer roll is usually placed at between 200 and 250 degrees Fahrenheit.

However, even if the moisture in the sheet is constant when it leaves the dryers, it is very difficult to secure a uniform finish in the calendar stack unless the sweat roll maintains a constant amount of moisture on the surface of the paper. Hence, if a record is kept of sweat roll temperatures, the regulation can be most readily controlled by increasing or decreasing the amount of cooling water entering the roll.

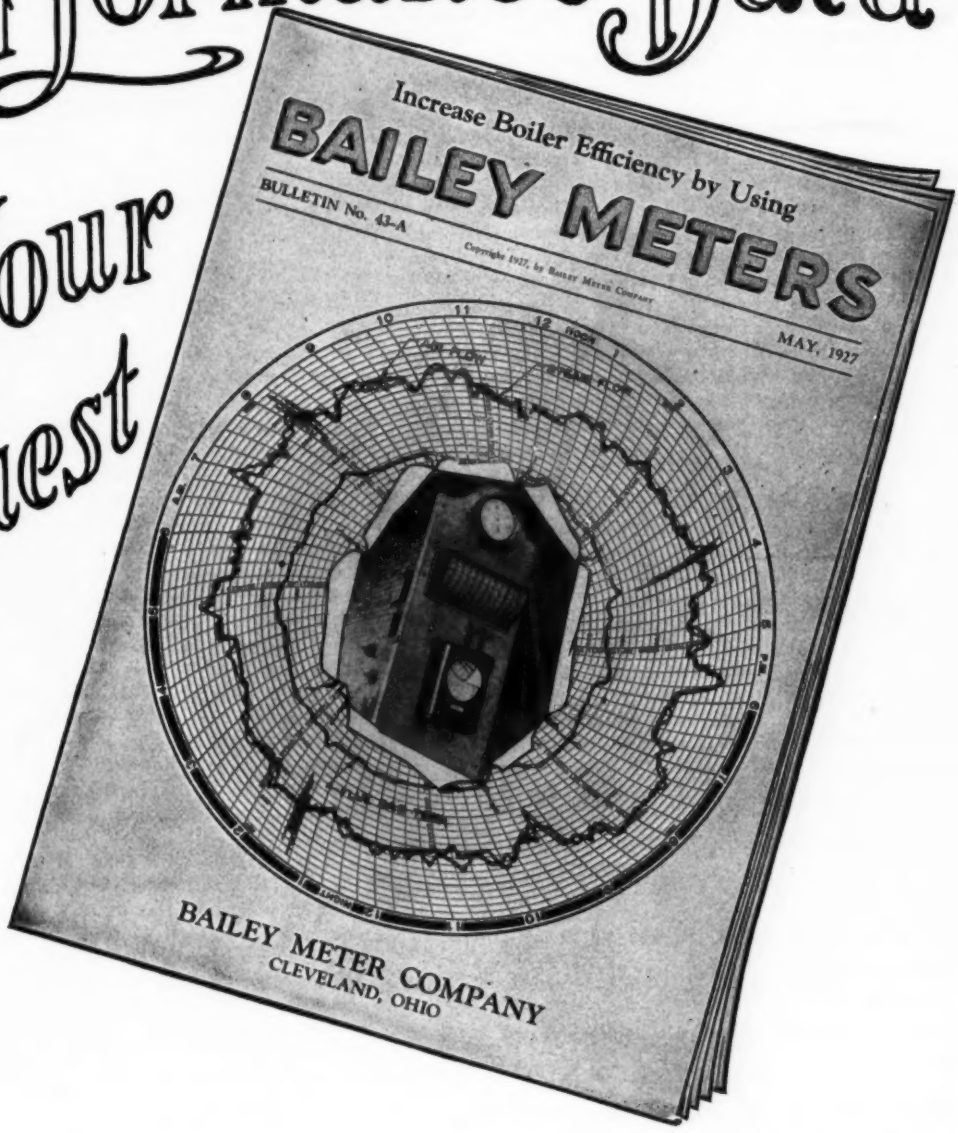
Profitably Employed on Digester Blow-Pits

Temperature recorders are also profitably employed on digester blow-pits to check the cycle of digester operation and to give an indication, at least, of the character of the pulp delivered by the digester. Another application of such instruments which has proved of value both as a safeguard and frequently as a money saver as well is in connection with the storage of bleach powder. The storage temperature greatly effects the rate of bleach powder deterioration. At the same time, high storage temperatures may cause disastrous explosions in air-tight powder containers.

One more application of temperature-recorder control of decided merit may be mentioned, for it is very informative in regard to the operation of the Jordans and of beaters. That is, the installation of a temperature-recorder for the noting of the temperature of the stock leaving the regulator box or of the stock

Performance Data

at your request



This new bulletin gives performance data concerning the Bailey Boiler Meter which records Steam Flow, Air Flow and Flue Gas Temperature. It tells of numerous instances where large savings have been effected by the use of Boiler Meters in industrial plants as well as central stations.

The bulletin contains chart records which have been reproduced in color to show the kind of boiler operation obtained before and after the installation of the Steam Flow, Air Flow guide. This information, together with test data and cost figures showing the actual savings in fuel consumption, labor and additional boiler units will be of interest to you.

Write for Bulletin No. 43A.

Bailey Meter Company

1056 Ivanhoe Road **Cleveland, Ohio**

Bailey Meter Company, Ltd., Montreal, Que.

in the wire pits. The temperature at box or pit is held to have considerable effect on the formation of the sheet.

While there are numerous other applications of temperature-recorders in and about the pulp and paper mills, even applications out of doors for noting the trend of temperature by which advance notice is secured of the amounts of heating surface and steam pressure necessary to keep the mill at proper temperature, the foregoing of the more usual mill applications give some fair idea of the very important part played by instrument control in the modernizing of the mill and power plant.

The instruments entailed in such service, however, are far from being limited to those of the temperature-recorder class, despite the prominence of such instruments, and in subsequent discussions the topic of instrument control will be approached from the angle of mill application, rather than that of applications of specific instruments, or types of instruments. The object of the present discussion has been simply to indicate in a sketchy manner how really widespread has become the need for modern indicating, recording and controlling instruments in progressive pulp and paper mills, a suitable appreciation of which would appear necessary before taking up the detailed consideration of instrument control in the sulphite mill, soda and sulphate mill, ground wood pulp mill, rag pulp mill and in the paper mill proper.

New York Paper Men Play Golf

The New York Paper Trade Golf Association held its annual Spring Tournament at the Shackamaxon Golf Club, Westfield, New Jersey, on May 15 and 16.

The prize winners were as follows:

Low Gross in the Qualifying Round, Steve Berrien.

Kickers Handicap, Ed Peck.

Winner of the Luke Trophy for the best 36 holes with handicap, Arthur Lynch.

Winner of 36 hole medal play with handicap, Alexander Calder.

Winner of First Eight Championship Division, A. Lynch defeated B. Blake 4 and 3.

Winner of Second Eight, Fred Leahy defeated C. B. Brown 2 and 1.

Winner of Third Eight, M. S. Johnston defeated K. Wyman 4 and 3.

Winner of Fourth Eight, S. J. Blake defeated O. F. Marquardt 2 and 1.

Winner of Fifth Eight, H. Hopkins defeated Bill Holden 3 and 2.

Winner of Sixth Eight, A. C. Damon defeated F. Maginnis 3 and 1.

Winner of Seventh Eight, R. McCandles defeated, R. D. W. Ewing 4 and 3.

United Paperboard Making Paper Umbrellas

[FROM OUR REGULAR CORRESPONDENT]

THOMSON, N. Y., May 26, 1928.—The growing use of paper in the commercial life of the country is being emphasized daily. Nowhere is this better evidenced than at the local plant of the United Paperboard Company, where the firm has just started the manufacture of paper umbrellas. The new product is known as the "Parella" and is said to be a practical and waterproof umbrella which will retail for fifteen cents.

The "Parella" is controlled under patents by the Parella Company of Pittsburgh and will be produced by the United Paperboard Company under contract. This is said to be the first time the paper has been used for such a purpose.

The "Parella," according to present plans, will be sold in all types of stores and will offer temporary covering to consumers in case of sudden showers. The small cost will allow the "Parella" to be discarded after its use with no real financial loss.

Obituary

Sanford B. Belden, vice president of The Jeffrey Manufacturing Company, Columbus, Ohio, died at the Hotel Chatham, New York, May 15. Death is believed to have been caused by an embolus. Just a day previous to his death, Mr. Belden had gone to New York on a business trip and he appeared to be enjoying excellent health.

Shortly after having been graduated from the School of Mines of Ohio State University, Mr. Belden joined the Jeffrey organization in 1896. After serving some time in the sales department he was made manager of the Jeffrey Pittsburgh office, which position he held for twelve years.

In 1909 he was promoted to the position of vice president and manager of the mining division and he continued in this position for seventeen years. In 1926 Mr. Beldon took a much needed rest, returning after a year's vacation to a vice presidency and directorship of The Jeffrey Manufacturing Company and, in addition, he was made chairman of the Board of Directors of The British Jeffrey-Diamond, Ltd., the Jeffrey British plant located at Wakefield, England.

In Mr. Belden's death, The Jeffrey Manufacturing Company is deprived of a capable officer and those who knew him have lost a tried and trusted friend.

W. L. Durkee

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., May 28, 1928.—W. L. Durkee, 48 years old, a prominent figure in the business life of this section, died at his home here after a short illness of pneumonia. Mr. Durkee was a stockholder and a director of the Schroon River Pulp and Paper Company, of Warrensburg. He was also vice president and a director of the Fort Edward National Bank and had large real estate holdings in Fort Edward and Glens Falls.

Mr. Durkee was serving his second term as village trustee and gave village matters a great part of his attention. He was a member of the Fort Edward Club, Fort Edward Automobile Club and Fort Edward Lodge of Masons. The survivors include his wife and mother.

William H. Evans

[FROM OUR REGULAR CORRESPONDENT]

WATERFORD, N. Y., May 28, 1928.—William H. Evans, for fifteen years master mechanic of the Gilbert Paper Company, the Hercules Paper Company, and the Mohawk Papermakers, died at his home here after a short illness. During his fifteen years' connection with these firms he was employed in the Waterford mill and was very popular with his associates. Mr. Evans during his residence in this village was one of the community leaders and served as village assessor and clerk of the board of education. As a director of the Y. M. C. A. he was actively interested in the organization and also lent his support to the boy scout movement.

Gold Hill Wants Pulp and Paper Mill

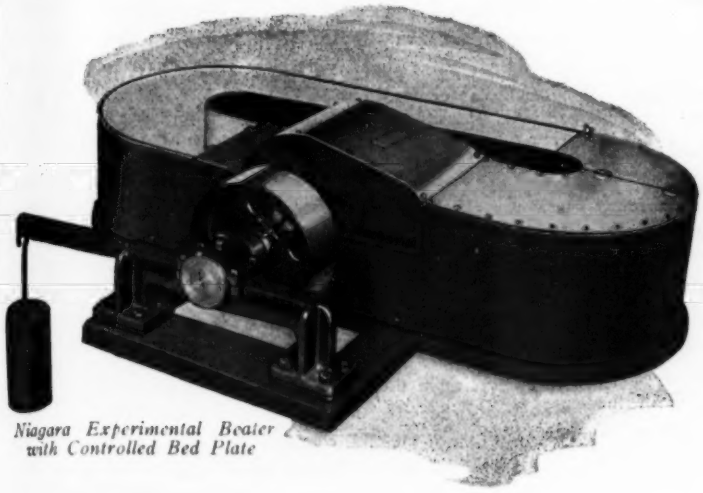
PORTLAND, Ore., May 24, 1928.—The Chamber of Commerce, Gold Hill, Oregon, in its last meeting late in May started a program for attracting a pulp and paper mill to their district. The proposition has been presented to W. G. Ide of the Oregon State Chamber of Commerce, and also to the W. P. Hawley Company, of Oregon City. In these suggestions for help in securing the plant, the lime and timber possibilities are emphasized.

Grays Harbor Co. to Build Power Line

[FROM OUR REGULAR CORRESPONDENT]

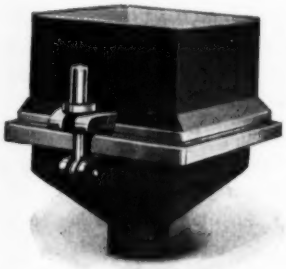
PORTLAND, Ore., May 24, 1928.—The Grays Harbor Pulp and Paper Company has been granted a franchise to build a power line from its mill in Hoquiam, Washington, to its proposed pumping plant up the East Hoquiam Valley.

In 90 Mills—

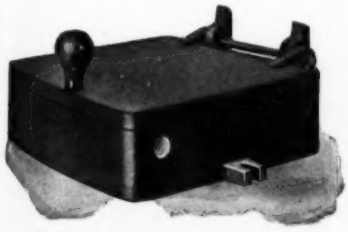


Niagara Experimental Beater with Controlled Bed Plate

Valley Laboratory Equipment is furnishing the means for accurate measurements of facts---helping determine whether raw materials that go into the mill's products are as specified.



Valley Sheet Mould for Forming Test Sheets



Valley Hot Plate for Drying Test Sheets

Valley Hydraulic Press for Removing Water from Sheets

Solving Paper-Making Problems

In these 90 mills Valley Laboratory Equipment is helping them solve paper-making problems — substituting accurate facts for guessing. It is as necessary to these mills as workmen's tools. It is actually promoting the art of making paper.

Valley Laboratory Equipment has been developed in our cooperative mill laboratories over a period of six years. Every piece is original testing apparatus. That's why it is today the recognized laboratory equipment for paper mills throughout the country.

Let us tell you how Valley Laboratory Equipment will help you solve paper-making problems in your mill. Complete information in our special Laboratory Booklet. Write for it today.

VALLEY IRON WORKS CO.

Machinery for Paper and Pulp Mills

APPLETON WISCONSIN

New York Office: 350 Madison Avenue
Western Manufacturing & Sales Division:
Smith & Valley Iron Works Co., Portland, Oregon

PAPER TRADE JOURNAL
ESTABLISHED 1872

Henry J. Berger
Editor

Ronald C. Macdonald
Editor Technical Section

Herbert J. Laughton
Assistant Editor

Thomas J. Burke, C. A.
Editor Cost Section

Reginald Trautschold, M. E.
Power Engineering Consultant

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXVI New York, May 31, 1928 No. 22

AN ADEQUATE FEDERAL FORESTRY POLICY

Pulp and paper men generally cannot fail to be gratified by the signing by President Coolidge on Tuesday of last week of the McSweeney-McNary Forest Research Bill. It is the capstone of many years' work in building the framework for an adequate Federal forestry policy.

Mr. R. S. Kellogg, secretary of the News Print Service Bureau, who as chairman of the National Forestry Program Committee, has labored indefatigably for some years for this result, says the new law is a fitting climax to a long series of acts by Congress, beginning with the authorization for Federal forest reserves in 1891, the establishment of the Forest Service and the transfer of the administration of the forest reserves to that organization in 1905, the Weeks act for the acquirement of lands for National Forests through purchase in the eastern mountains in 1911, and the Clarke-McNary act in 1924, which firmly established the principle of cooperation on the part of the Federal Government with the states and timberland owners in the protection of our forests from their greatest enemy—fire.

The latest Federal forestry law went through Congress with unusual speed and lack of opposition. Introduced in the House by Representative McSweeney of Ohio and in the Senate by Senator McNary of Oregon, hearings were held by the respective Congressional committees during the week of February 28, and the proposed legislation was also discussed at the same time with the President and Director of the Budget. The bill passed the Senate on April 17 and the House on May 12, without a single vote being recorded against it in either body, which is sufficient testimony to the widespread public backing which the measure received from organizations and individuals throughout the country. With the signing of the bill by the President, there are now many years' work ahead in conducting the various lines of forest research which are necessary to the maintenance of timber production and the utilization of forest products in their varied forms and highest uses.

The McSweeney law provides in detail for a long-time program of fundamental forest research by five different Government bureaus. To the Forest Service is assigned the conduct of the Forest Experiment Stations (which are as essential to tree growing as Agricultural Experiment Stations are to farming), forest range research and forest products. The present appropriations for these items total $881,800. The authorizations for them under the McSweeney law are $2,275,000. If stepped up under the proposed ten-year program, this is equivalent to an annual increase of $139,320.

For investigations into the diseases of forest trees and the causes of decay and deterioration of forest products and the development of methods for their prevention and control, the Bureau of Plant Industry receives an authorization of $250,000 annually, as compared with the present appropriation of $98,500 for this purpose. On a ten-year basis this is equivalent to an annual increase of $15,150.

For the development of methods for the prevention and control of infestations of forest insects, of which the gipsy and brown-tail moths and the pinebark beetles are conspicuous examples, the Bureau of Entomology receives an annual authorization of $350,000, compared with the present appropriation of $174,570. According to the ten-year plan, this will amount to $17,543 annual increase.

For studies in the life histories and habits of forest animals, birds and wild life, the Biological Survey receives an annual authorization of $150,000, compared with the present appropriation of $10,000. An annual increase of $14,000 for ten years will be necessary to bring this item up to the authorized maximum.

For studies into the relationship of weather conditions to forest fires, leading to the possibility of forecasting forest fire dangers, the Weather Bureau receives an authorization of $50,000 yearly, compared with the present appropriation of $23,600.

In total, the present appropriations for these various items are $1,188,470. The authorizations for them carried in the McSweeney law are $3,075,000. In carrying out the suggested ten-year plan of gradual increases, in order to build up the work with maximum effectiveness, the additional annual appropriations for these purposes would be $188,653, which is a very moderate program.

Besides these specific annual authorizations, the new law carries two other items assigned to the Forest Service. One is a maximum annual appropriation of $250,000 for studies of the costs and returns and the possibility of profitable reforestation under different conditions in the different forest regions and for various other economic investigations of forest lands and forest products, in order to assist in the most effective distribution in the interests of both timber grower and timber user. The other item is a total authorization of $3,000,000, at the rate of not more than $250,000 annually for a comprehensive survey of the present and prospective requirements for timber and other forest products in the United States and of timber supplies, in order if possible to arrive at means of balancing the timber budget of the country. This work is to be carried out with the cooperation of the appropriate officials of each state, and also with the assistance of private and other agencies which may be able to help in the problem.

It may be easily judged that the most important parts of the new law are those which make provision for much larger appropriations for the Forest Experiment Stations and the forest products investigations. There are now eleven Forest Experiment Stations, whose fields are so sub-divided as to cover all the most important forest regions. One or two additional stations

(including one in Hawaii) may be established under the new law, and with the long-time program of more adequate financial support now assured, it will become possible for the Government to build up and hold the scientific personnel required for research of this kind. The forest products investigations, carried on chiefly at the Forest Products Laboratory, operated at Madison, Wis., in cooperation with the University of Wisconsin, deal primarily with the determination of the properties of all our commercial woods, treatment by means of seasoning and preservatives to prolong their life and usefulness, studies into the practical uses of the various woods, and the products which may be derived from them, and also studies of new and improved methods for the manufacture of pulp and paper from wood.

With the enactment of the McSweeney-McNary law, completing the program for general Federal forestry legislation, there is now reasonable basis for hope that the problem of our permanent timber supply is in the way of solution. There is still a long way to go, and this is even more true of some of the states than of Federal accomplishment, but we are headed in the right direction, which is more important than the rate of speed.

S. L. Willson Bound for Europe

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 29, 1928.—Sidney L. Willson, president of the American Writing Paper Company, with General Superintendent Leon M. Yoerg, sailed Saturday on the North German Lloyd liner *Berlin* for Bremen, Germany. They will visit paper mills in Germany, Sweden, Norway and Finland before their return President Willson is the official delegate from the American Pulp and Paper Association of this country to the summer convention of the German Pulp and Paper Chemists and Engineers Association to be held at Heidelberg, June 10-12. The Holyokers after landing at Bremen will go to Cologne and thence to Bergisch-Gladbach to visit the J. W. Zanders mills. They will take the Rhine trip to Biebrich and motor to Deisbaden, where the Aschaffenburg mills are located. After the Heidelburg convention they will go to Munich, where the Daschauer mills are located. They will then visit Dresden, Berlin, and Potsdam and other places and plan to sail for home July 2.

Vegetable Parchment Paper Decision

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—A vegetable parchment paper decision has been rendered by the United States Court of Customs Appeals in the case of the United States against D. J. Fowers. The decision was rendered by Associate Judge Hatfield of the Court. It appears from the record that vegetable parchment paper was entered at the invoice price, which the importers claimed was the export value. It was appraised by the local appraiser at an amount which he considered the foreign value. The single justice in reappraisement, and the United States Customs Court in reappraisement, sustained the entered value. The Court of Appeals now holds that there is no evidence of any export value, and as the court below made no findings as to foreign value their judgment is reversed and the cause remanded for further proceedings.

Kindleberger Addresses Kalamazoo Students

KALAMAZOO, Mich., May 28, 1928.—Love your work with all your heart, soul and mind; love humanity and do one thing better than has ever been done before are three principles to follow to achieve success in life, according to Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company, who recently addressed the students in Kalamazoo College. He said that too many people are thinking of material success and not of their work, which often results in failure.

Minnesota Commission Studies Eastern Forestry

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., May 28, 1928.—The Minnesota Reforestation Commission which is making a tour of the Eastern States to study the general subject of forestry with special attention to reforestation, was in Albany this week and Conservation Commissioner Alexander McDonald, who acted as host to the commission, was aided by representative paper mill men of Northern New York in outlining for the visitors methods that are being successfully used by New York State in the care of its forests.

William G. Howard, State Superintendent of Lands and Forests, explained the state's nursery system which is producing and distributing 25,000,000 trees each year. George N. Ostrander, vice president of Finch, Pruyn & Co., Glens Falls, interestingly described what his company is doing in forest preservation work. He explained that Finch, Pruyn & Co. was keeping its annual cut within the natural reproduction of wood on its timberlands.

John L. Carlisle, of the St. Regis Paper Company and the Northern New York Utilities, Inc., outlined briefly the work that his companies are doing in the way of wholesale reforestation, including operation of private nurseries to produce their own planting stock. The nursery maintained by the St. Regis Paper Company in the Adirondacks for supplying the Carlisle concerns with young trees for reforestation purposes, was described for the benefit of the visitors, who were deeply interested.

The Minnesota Commission, state officials and manufacturers, paid a visit to Saratoga Springs and inspected the state's largest forest tree nursery where the planting, transplanting and shipping of the young trees were studied. The state is now engaged in planting between fifteen and twenty million two year old seedlings to supply transplant stock next year. Later the party visited the Luther preserve where Thomas C. Luther has just completed this year's plantation of 1,200,000 trees. Over 5,000 acres of the Luther estate are now reforested with white pine, red pine, and Scotch pine, the trees ranging in age from two to fifteen years. The Minnesota visitors left Albany Thursday for Washington.

Crown Willamette Earnings

PORTLAND, Ore., May 24, 1928.—Net earnings of the Crown Willamette Paper Company and its wholly-owned subsidiaries for the first three months of this year were $534,802. Net earnings for Pacific Mills, Ltd., which is more than 80 per cent owned by Crown Willamette, amounted to $165,052 during the quarter.

Crown Willamette and its subsidiaries earned a profit of $1,236,690 before charging depreciation, depletion, bond interest and federal income taxes during the March quarter, while deductions totaled $701,887. These deductions were: Depreciation, $294,695; depletion, $49,892; bond interest, $292,117; federal income taxes, $65,182.

The profit earned by Pacific Mills, Ltd., before charging depreciation, depletion, bond interest and dominion and provincial taxes for the three months, totaled $479,004, while deductions amounted to $313,990, represented by: Depreciation, $213,735; depletion, $1,148; bond interest, $67,650; dominion and provincial taxes, $31,456.

Swedish Wood Pulp Sales Smaller

WASHINGTON, D. C., May 29, 1928.—Sales of Swedish wood pulp during March were a little smaller than during the preceding month, according to a report to the Department of Commerce. Estimates place the sale of sulphite pulp at 58,000 metric tons during March as against 73,000 tons in February.

Sales of sulphate pulp, which are believed to have reached around 50,000 tons, however, were about on a level with the preceding month. The greater portion of sulphite pulp, about 23,000 tons, was sold to this counrty, Great Britain taking 20,000 tons and continental Europe 9,300 tons. There was little change in prices during March, but it is expected in view of the small stocks on hand at the mills, that when shipping from the north of Sweden commences, wood pulp prices will show considerable advance.

That Intangible *Something*

IN E B G Liquid Chlorine you receive more than a quality product. You gain more than the satisfaction experienced whenever a product is well serviced.

It is difficult to adequately convey it in words... this intangible something which each and every E B G customer receives. Yet there is nothing misty or unreal about the benefits derived from EBG Liquid Chlorine and the service which accompanies it.

Back of the product and the service is real, intelligent interest and cooperation... the spirit of EBG which invests your contacts with profit and a feeling of complete satisfaction.

Liquid EBG Chlorine

Electro Bleaching Gas Co.

PIONEER MANUFACTURERS of LIQUID CHLORINE

Plant: NIAGARA FALLS, N.Y.

Main office 9 East 41st Street New York

Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

Latex Sizing by the Beater Method

By Joseph Rossman [1]

The recent patents granted to Frederick Kaye for the use of rubber latex in paper making have aroused considerable interest. His U. S. patent No. 1,500,500, corresponding to British patent No. 167,935, states that "highly satisfactory paper has been manufactured using the latex of Hevea brasiliensis, and containing 0.5 per cent, 1 per cent, 2 per cent, 4 per cent and 5 per cent of rubber to the weight of dried paper, while much more resinous latexes have been successfully used to produce papers for special purposes containing as much as 10 per cent of coagulative material. Paper containing india-rubber has a high tensile strength. The folding number, as determined by the Schopper folding machine, of samples of paper containing 0.5 per cent of rubber and vulcanized, has reached 5,000 to 6,000. Without vulcanization, paper containing 2 per cent of rubber often has a folding number of 2,000 and over. The bursting strength of many papers made from chemical wood pulp containing rubber from the latex of Hevea brasiliensis, or from the coagulum of highly resinous latexes containing rubber, gutta or balata, is equal to that of paper made by the kraft process. The quality of paper being improved by this process the time of beating may, in many cases, be considerably shortened, thus reducing the cost of manufacture. Further, by this invention fibers of low grade can be profitably used for the purpose of paper making. The invention may be usefully applied in the making of millboard and similar paper-like materials."

The process consists briefly in adding to the paper pulp rubber latex diluted to contain only a small content of rubber relative to the weight of paper to be produced, mixing the pulp and diluted latex, adding a coagulative agent to the mixture, and after suitable coagulation, passing the mixture through a paper-making machine.

A Century of Rubber Latex

It is interesting to note that over one hundred years ago Thomas Hancock experimented with rubber latex. His British patent No. 5045 granted in 1824 used latex for saturating fibers of flax, hemp, cotton or wool from which sheets were formed. In 1830 he obtained a British patent No. 5970 in which he mixes latex with the wet pulp of rags and forms sheets therefrom. A great many other uses for latex are suggested in this patent.

An old U. S. patent No. 69,752 granted in 1867 uses the common weed asclepias for paper making. This patent discusses the methods of cultivating this weed so that large quantities can be produced for paper making. It states that the pulp or fiber can be mixed with rubber of gum. A study of the milkweed (*Asclepias subulata*) indicates that it contains 6 per cent of rubber and has good paper making fiber. This weed thus gives a mixture of paper fiber and latex already prepared by nature.

[1] Patent Attorney, Washington, D. C.

The recent processes using latex with paper pulp have been developed as a result of the many problems presented by the use of this material in modern paper manufacture. New and better methods of preserving and handling rubber latex have made it readily available to the trade so that a considerable development in the application of rubber latex has been made possible thereby. The following abstracts of U. S. patents give the methods which relate to the sizing of paper pulp by the beater method using rubber latex.

Patent Review

1. Bickford 69,752. Oct. 15, 1867.

Paper pulp is made by disintegrating the common weed asclepias.

2. Claessen 1,357,845. Nov. 2, 1920.

A process for treating the bark shavings from rubber trees, consisting in grinding and masticating them under heat so as to produce a plastic substance, mixing therewith a vulcanizing agent, shaping the mixture, and vulcanizing the product.

3. Kaye 1,497,146. June 10, 1924.

In the manufacture of paper, adding to the beaten pulp in a beating engine rubber-containing latex, balata-containing latex or gutta-containing latex, to which has previously been added a small quantity of soluble alkaline sulphide, afterwards adding a coagulant to the latex-treated beaten pulp, along with an accelerator, and delivering the pulp to a paper making machine wherein the excess of moisture is removed, and the paper finally dried by heated rolls, which simultaneously vulcanize the rubber in the paper.

4. Kaye 1,500,500. July 8, 1924.

According to the invention, any natural india-rubber-containing latex, or any india-rubber-containing latex preserved by ammonia, formaldehyde and the like, or any gutta-containing latex, or balata-containing latex, singly or combined, is or are added to the usual paper making materials, cotton, jute, linen, hemp, wood pulp or other vegetable or animal fibers, as well as mineral fibers such as asbestos, together with any mineral fillers, such as china clay and the like. The said latex or latexes is or are added to the paper pulp after the latter has been beaten to the required extent for the quality of paper aimed at and the quantity of latex or latexes added is in proportion to the quality of the paper to be made and the nature of the fibers, and other materials used in the composition of the paper. After thoroughly mixing the latex or latexes with the pulp, which may be done in the beater, a coagulative agent is added, said agent being added according to the nature and state of the latex, and being such as acetic acid, formic-acid or any other suitable organic or mineral acid, or small quantities of

mineral salts. When a satisfactory coagulation has been effected the contents of the beater are transferred to the cistern or pulp-holding tank of the usual paper making machine and run through the machine in the ordinary manner. The paper may be sized in the usual manner, before or after the addition of the rubber, gutta, or balata-containing latexes. The dried paper can afterwards be vulcanized by any suitable process.

5. Schidrowitz 1,502,686. July 29, 1924.

The manufacture of paper characterized by incorporating or impregnating suitable fibrous material with aqueous vulcanized rubber made according to patent 1,443,149 followed by the deposition of the rubber in situ upon the solid components of the paper, for example, by addition of a coagulant. The pulp before it is made into paper sheets may be admixed with the aqueous vulcanized rubber, the rubber being deposited upon the particles of pulp and the pulp thereafter made into paper. Alternatively, the paper may be impregnated after it is made into sheet with the aqueous vulcanized rubber and the rubber deposited either by adding a coagulant or by evaporation of the water, as in ordinary tub-sizing.

6. Marshall 1,506,317. Aug. 26, 1924.

Latex is diluted with about ten times the volume of water, then thoroughly mixed with a measured quantity of the product with refined paper pulp, then coagulated with alum or an acid. This causes the colloidal particles of rubber to unite in a reticulated structure which forms a thin film around the individual fibers. This film is insoluble in water. The paper is then run out on a paper machine, a cellulose gelatinizing agent such as zinc chloride or sulphuric acid introduced, the excess acid removed and the paper dried and pressed. The latex is preferably incorporated with the paper stock when the latter is approaching the final stage of beating and the beating continued until the latex has been thoroughly incorporated. If coloring matter is to be used it is preferably introduced prior to the introduction of the latex solution. The proportion of latex used may vary within a wide range. By adding a quantity of the latex to the paper stock sufficient to make the rubber content of the finished product five per cent, the finished gelatinized fiber is materially improved in its flexibility and in its moisture resisting and dielectric properties. By the addition of a larger proportion of the latex a more flexible and better resistant product may be produced, the best results are obtained with a rubber content not exceeding fifteen per cent.

7. Hopkinson 1,567,646. Dec. 29, 1925.

A process for the manufacture of rubber and paper and similar combinations which comprises adding alkali to beaten hydrated paper pulp, adding alkali-treated latex to the alkali treated pulp, continuing the beating until substantially all of the pulp is alkaline, adding a coagulating agent having an acid reaction in dilute solution, such agent being added in two stages, approximately two-thirds of the amount necessary to coagulate the latex being first added, then thoroughly mixing the mass, then adding the remaining third of the coagulating agent to cause coagulation of the mass, and subsequently subjecting the mass to a method of manufacture whereby it is formed into sheets. By the process it is possible to incorporate with the various types of fiber from 1 per cent or less of rubber up to more than 150 per cent based on the weight of the pulp taken. The characteristics of the paper resulting from the above process are widely variable depending upon ths amount of rubber used, the kind of pulp used and whether or not the rubber is vulcanized in the sheet. Using concentrations of rubber on the sheet as low as 2 per cent on the weight of the pulp, increases in Mullen test of from 15 to 20 per cent, tensile strength of from 8 to 10 per cent and resistance to flexing of from 50 to 60 per cent have been obtained. These properties in general increase as the percentage of rubber in the sheets is made larger. Papers containing rubber are water-resistant even with the lower percentages. After the amount of rubber has been raised to form 10 to 15 per cent, this quality is greatly increased. Papers containing 33 1/3 per cent rubber are capable of being washed in water a great number of times without destroying the sheet or materially decreasing its strength. Paper containing above 25 per cent rubber on the weight of the sheet have decidedly characteristic properties tending more toward those of a sheet of rubber than of paper in the ordinary sense of the word. It is safe to say in carrying out the above process that almost any desired property may be obtained between those of paper on the one hand and rubber sheets on the other.

8. Beebe 1,595,375. Aug. 10, 1926.

A method of treating a suspended rubberized fibrous composition which comprises vigorously agitating the suspension, allowing the material to segregate in felted relationship at the surface thereof and draining of the suspending medium.

9. Kaye 1,600,047. Sept. 14, 1926.

According to the invention, any fibrous material, vegetable or animal, waste paper, waste paperboards or the like or any mineral fibers, such as asbestos, together with mineral filling such as china clay, etc., which can be used in the manufacture of paper or paperboards are treated with rubber-containing latex after or while being beaten in the beating engine of a paper-making machine and the rubber in the latex is coagulated on the beaten fibers. The quantity of latex to be used may be of any desired and convenient proportion. The beaten latex-treated material is then run off on a paper-board making machine without any drying, or with only partial drying of the sheeted pulp. The still soft sheeted pulp is then passed through any suitable disintegrating machine whereby the compound and sheeted material is torn into small and as far as possible fleecy pieces. This shredded, powdered or disintegrated material is then molded or pressed under suitable pressure into the form of plates, tubes, blocks, or other desired shapes in suitably constructed molds, with, or without the further addition of other fibers, waste rubber in a granular, powdery or fleecy condition, together with, if desired, any mineral powders or fillers according to the character of the goods to be made and the use to which they are to be put. Any suitable form of powdered sulphur or soluble sulphur compounds such as the soluble sulphides may be added at any convenient point in the process but preferably the soluble alkaline sulphides will be added to and mixed with the natural or alkaline preserved latex before its addition to the beaten fibers. When the acid or mineral salts, which are added to coagulate the rubber are present in excess, they will decompose the sulphides to give colloidal sulphur closely associated with the coagulated rubber or to give insoluble sulphides together with free sulphur. Any suitable accelerator may be added at any suitable point in the process, these accelerators being such that, if possible, they are able to accelerate the vulcanization of rubber at lower temperatures than the temperature at which vulcanization is usually brought about.

10. DeCew 1,621,399. Mar. 15 ,1927.

Rosin or rubber emulsion is added to the beating engine in which the paper stock is either neutral or alkaline. After the emulsion is completely incorporated, but not yet coagulated, a suitable quantity of aluminum hydrate is added after which coagulation slowly takes place. After the materials are coagulated, sulphate of alumina may be added without injury to the water-proofing qualities. Freshly precipitated aluminum hydrate is used. Owing to the fact that rosin or rubber particles in emulsion are negatively charged whereas the ions of colloidal alumina are positive, there is a slow coagulation of the emulsions when these various materials come in contact with each other and a water resistant precipitate is obtained which has very different properties from that which is formed when the emulsion is coagulated by an acid salt.

H. H. Turner Joins Defiance Paper Co.

Niagara Falls, N. Y., May 28, 1928.—H. Hamilton Turner has been made secretary of the Defiance Paper Company, having been sales manager of the Wrapping Paper Division for the past three years. Mr. Turner was formerly connected with the Hammermill Paper Company.

Beating and Washing of Rags

By Leo Schlick [1]

Materials to be distintegrated and fibrillized, arrive at destination either in a bone dry condition, in a pre-hydrated condition, or such as for instance rag stock, in a raw condition.

The conditioning of rag stock being the oldest, I shall dwell on this subject preparatory to that of the chemical fiber stocks substituting to a more or lesser degree the ancient use of rag fiber for papermaking purposes.

Preparation of Rag Stock, to Be Subjected to Fibrillization

The usual removal of loose dirt, the extraction of iron, the sorting, cutting, dusting and conveying to the rotaries may be varied to the papermakers hearts content, and as a rule, no two rag-rooms are operated alike. In fact, contrary to rules for maximum strength of the rag stock to be ultimately produced, ineffective methods are often being resorted to, in order to smooth the path of uninterrupted manufacture in some other department of the mill.

Hence, we often see rags of a substantial character mangled up in inefficient machines, cut into short or narrow (or both) pieces, to assist the beater tackle, or to assist in the washing, or cooking.

Primarily, the rag room, independently of any other department of the mill, should be operated to produce the strongest stock obtainable from the material at hand, and also at the same time should produce thee cleanest stock possible. Rag-room machinery has not changed to any considerable degree, the dusting equipment being the old-time enclosed type, with or without ventilation for the extraction of the loose dirt and dust as it is loosened from the rags. The sorting is now considerably reduced. In fact, we may justly call the rags, arriving from the packing houses, pre-sorted, and this of course facilitates the manufacture of grades specialized in by the mill.

Loose grit, dirt and iron parts are removed mechanically, while embedded grease is removed or softened chemically. The application of lime plus soda or soda alone has not changed materially in all the years rags have been used for the making of strong paper, nor has the boiling in rotaries undergone any improvement or variation. Depending upon the width of the strips cut by the rag cutter and upon the length of the pieces, more or less raw stock can be packed into the rotaries and hence a fairly true relationship between quantity of rags and quantity of chemicals may be established to produce a uniform boiled stock, ready for the washers. The boiling process, however, is still very crude, inasmuch as a uniform discoloration of all the stock contained in the rotary is really obtained. In other words, the matter to be ultimately dissolved or removed is allowed to spread out all over the contents of the rotary and the worst feature of this method is, that fairly clean rags are forced to absorb and to be loaded down with the matter being loosened out from the dirtier rags.

Another important point is the duration of the cook itself and much research work is still necessary to determine the proper steaming time and the proper boiling time so as to produce the best possible stock. There is always the danger of boiling the fatty matter contained in the rags into the interior of the fibers and through intense boiling not only set the color to some extent, but also form a firmer bond between the dirt and the fiber-walls.

The tendency of over-boiling and over-washing the stock and the bleaching of impurities are of course governed by the appearance of the paper itself, made from the stock, and to a more or lesser degree by the way and manner in which the stock lends itself for its handling in the washers, the beaters and on the papermachine. No doubt many grades of stock are over-washed and over-bleached, to produce an average stock, in which bleachable impurities are seemingly non-existent. To continue this process for the ultimate removal of these, the washer has to be handled carefully so as to duplicate the dissolving action and removing action as far as possible by other means, at the same time trying to disintegrate the still too long fibers into half stock.

This is rather large order, and inconsistent as papermaking is at times with facts, this process never has changed in the least and time is being employed to make up for the deficiencies of the ancient practice of washing. In other words, slight roll-pressure plus plenty of fresh water are employed to pull the fibers apart so as to undo the work of the spinning machines and weaving equipment and generally one trusts to the work done in the rotary for the loosened incrustations to drop off all by themselves through the more or less mechanical action of impact of the roll bars and the effect of the tackle.

The softened up waxy and fatty matter and the discolorations have been merged in the rotary, boiled into some sort of a semi-chemical and semi-mechanical mixture. Upon having been allowed to cool off the stock is put into the washers, and the constant use of water plus the tackle action are called upon to continue or supplement the dissolving. Assuming a happy medium of sorting plus boiling plus washing has been established, nevertheless the waxy matter contained within the fibers and boiled into them, will not wash out entirely if not in solution with soda and lime. And even if in solution, the fibers themselves through capillary action and through influences having to do with the natural growth of the fibers will hold on to any such matter as still remains and as still will remain in the innermost structure of the fibers proper.

From this it will appear that the less mechanical exertion that is applied in the washer, the more matter will remain within, to be carried into the machine beaters. In other words, the coarser the half-stock and the longer the fibers are allowed to remain in same, the more incrustations will be carried along with them down the drainer. Evidently, a long washing action plus drawing-out action in the washer will produce better stock. It is very fortunate that the boiled stock is pre-hydrated and thus the washer can begin to do its work, with the fibers in a flexible condition. Thus, were the fibers allowed to dry out before they get into the washers, they would become brittle and would have to be pre-hydrated before the beating tackle could be allowed to act on them.

"Hydration" is a very much misunderstood expression. To obtain maximum strength from any fiber, it is quite necessary that it be thoroughly moistened throughout. In other words, a wet rope will stand more abuse than a bone-dry one. This is caused by the flexibility of the fibers. Naturally, whenever the waxy matter still contained within the boiled stock is allowed to fasten itself to the fibers, the pre-hydration is materially affected and negatively so. The surface allowed to hold onto the waxy matter and other incrustations is hence more brittle and hence the ultimate stock is fatigued faster.

Hence, we are back again to the over-boiling seemingly necessary to dissolve all the dirt, waxy matter and all of the incrustations. The manufacture of all rag papers has not materially changed during the past one hundred or more years. Production was slow on account of the infancy of the mechanical art, and mainly due to poor contacting in the wet-presses, there being no rubber rolls. Hence, there was plenty of time and relatively more power available for the preparation of the stock. Furthermore, stock had to be beaten off the plate, and who of the older papermakers do not remember the days when there was no recourse to badly beaten stock other than the river.

Beaters were small, and as mentioned there was plenty of time, the beaters running under little roll pressure until the stock was

[1] Consulting Mechanical Engineer, Boston, Mass.

ready. In principle the preparation of the rags then was the same as that of today, except that in some mills as many as forty to fifty grades were sorted out and treated individually. The boiling was mild and well taken care of, time being no object and coal hard to haul. In other words, there was no tendency to over-boil the stock. After it came from the rotaries the stock was taken to a set of washers, fitted with wooden bars, and the matter loosened out in the rotaries was washed out and the button catchers were large dimensioned compared to the small size of the beater itself. From there the stock was taken by gravity to a set of beaters, equipped with steel tackle. Again the button catchers were of relatively large dimensions and the use of small wooden beater rolls, equipped with steel bars, did not allow the cutting of the stock. The beaters simply run until the stock had attained a certain refinement. The idea of the transfer of the stock by gravity from the first set of washers, which followed the boiling, was to check the cleaning of the button catchers. In fact, no magnetic iron catchers being known in those days, this was the only way of eliminating steel and iron trash and brass. The brass evil is still with us as is the rubber evil, no means other than careful sorting and button catchers being known to date, to withdraw brass and rubber. After having undergone the final pre-beating, the furnish was assembled as we do now, in the machine beaters, with the exception that there was no jordan engine to correct the length of the stock.

Since half stock naturally is not entire beaten, and in fact since it is a pre-beaten stock, and since, owing to the nature of the hollow fibers much foreign matter is still entrained within those parts of partly broken down fiber-walls, it is evident why there is with us such a thing as beater gum. The action of alum and sizing of course do and continue to influence the action played by the beater gum. This gum is nothing less than the waxy matter, liberated through continued beating action from the interior of the fibers, and balling together into fine globules and otherwise making itself an undesirable constituent of the furnish. Some mills combat this by the application of added chemicals, others prepare special rosin sizing, and all sorts and means have been used to eliminate it. Assuming a normal beating procedure of moderately pre-beating and washing, and a slow drawing out of well hydrated fibers at moderate beating temperatures, the gum is taken care of in a great many ways, providing the means employed are sufficiently drastic and providing the water is sufficiently considered.

Inasmuch as the utilization of rags for papermaking purposes is an old art and not having been changed or varied for a century, the constant handing down of experiences in regard to the handling of the stock still remains with us with all its rule of thumb methods, superstitions and delusions to a very considerable degree.

Before returning to the subject, I again shall dwell on the methods developed one hundred years ago as to the design of the machines proper. Although no jordan engines were used, and these, in fact, are still absent in rag specialty mills of today, the screens were well developed. In 1835 there existed rotary screens of the outward flow type composed of slotted cylinders, vibratory means being used to free the slots and to facilitate the passage of the stock through the slots. Sand and riffler-troughs were in use. The fourdrinier end had a well designed shake. However, the couch and the presses were of rather flimsy design and much time was lost in getting the sheet over the presses. Those were the days of metal against metal rolls, rubber covering being unknown. In fact it is but a relatively short time ago that solid contact presses were in vogue and the writer had many a weary hour some twenty-five years ago to lead stock through the solid contacts at the then enormous speed of 400 feet a minute. Even before the present rubber covering came in use, the old time hard rubber coverings were of little use and of small improvement against a first class solid-contact press of special design, equipped with counter-poise.

Watermarking, one hundred years ago was as it is today, no improvement to speak of having been made, excepting the substitution of the rubber stamp idea for sulphite bonds used today on the presses. The drying was effected on copper dryers, truly a better method of heat transmission than the one through cast iron. The stack of calenders was often omitted, especially where the paper was allowed to remain in rolls for some time so as to smooth out. In many mills, however, cutters were attached to the rear and the paper was immediately cut into sheets. For some reasons, of their own, clinging to antiquity, many small mills still use this method of cutting up at the rear, immediately after manufacture, and of course, this is a method still practiced although long since recognized as inefficient.

These are the typical short order machines, narrow, slow-running and seemingly producing a nice sheet as long as it stays at the mill. The sheet is generally fairly well formed, except that the flexibility of manufacture and the time allotted for the duration of the fiber preparation allows practically any laxity to be covered up, that the modern printer actually does despair in being asked to run this sort of a sheet at a high speed. One of the main reasons for this is that with the increasing demand most of the old all rag mills have been speeded up to a certain extent, and instead of being produced at the originally pre-determined time to sort and cut and wash, the rag stock preparation has been shortened, the machine speeded up to a certain extent and so the finishing, without proper due proportion to the time element entering all stock preparations.

The failure to produce paper at faster speeds on all rag papermachines has been due to the very fact that a mere speeding up of operation without the increase of the intensity of preparation proper has not been in proportion to the actual work and action required. Since the advent of safely running high speed papermachines, all difficulties as to perfect leading of paper over the machine, perfect pressing, perfect drying and winding have been overcome. Papermachines of today, sturdily built, will operate without vibrations and will form a good sheet. Hence, there is no difficulty in actually making an all-rag sheet at great speed, providing the ancient mode of sorting, dusting, boiling, and fibrillization is elaborated in proportion to the intensity required.

A rag sheet, well made and economically manufactured has its place in the business and private world for durability and appearance. Hence I predict that, just as we now have large mills manufacturing substitute papers, we shall have with us well balanced all rag mills, of a character outclassing the under-powered, low pressured, slowly moving old-time all rag mills. Especially in the East of the United States, where due to the proximity to European markets and to the large cities, considerable quantities of old rags are available, the establishment of modern fine paper mills of modern design will be but a matter of time. They will be equipped with novel rag sorters, with modified rag cooking systems, with disintegrators and defiberers and with all the equipment for fast and safe and profitable fine papermaking, largely improving on the ancient art of rag stock preparation.

Returning to the mode of stock preparation, the major requisites for the successful manufacture of all rag paper are the water supply and the power supply. Both of these form the backbone and also form part of the constituents entering the product.

Considering the efficiencies of modern power plants and super power plants installed by the super power system, the pressure used, the methods of coal and ash handling employed, one need not be a visionary to realize how handicapped old all rag mills are today, who still cling persistently to return-tubular boilers, low pressures of 100 to 150 pounds and to reciprocating engines or turbines of ancient vintage.

One is generally satisfied with well burnt out ashes, with the stoppage of exhausting steam into the atmosphere and with a seemingly efficient mode of steam utilization for process work. Now, for instance, supposing coal carries say 6 per cent of ash,

a residue of coal of even 25 per cent contained in the ash will but amount to a fuel loss of 1½ per cent. Against this, the use of high pressure steam may amount to a saving of up to 200 per cent, the installation of waste heat recovery may amount to 10 to 25 per cent or over, the generation of power may be enhanced through modern equipment some 300 per cent in many a case, depending upon the hook-up of the process steam net used.

No industry requires such large quantities of clean water than an all rag mill. The river offers practically the only supply, if pure spring water of exceptional quality cannot be had. Water, during its course, is being polluted in a great many ways. Nature uses it as a drain for all of its completed process work to grow forests, to water plains, and after having done its work, the water of course contains many substances and residues not desired in the making of paper. During the winter, while the absorption of organic matter is at a minimum, stream pollution is low. The temperature prevailing during the cold season of course prevents the organic matter from being absorbed. Hence, it has been the practice in all rag mills to turn out their best during that season. In other words, the natural refrigeration plus clean water afforded during the cold season is helping to make paper. Hence, if a mill is to run at full capacity without trouble all year round, means and ways must be found to eliminate the influence of the warmth of the water and the impurities carried by it. Hence the water should be carefully softened and treated.

One of the worst features of warm water is that it carries organic substances, influencing the sizing. The temperature of the manufacturing water during the warm seasons will cause trouble, inasmuch as the beaters then will run hotter, and, as the old papermakers say, burn out the alum and the size. Since the advent of the rosin size, invented some 120 years ago by the papermaker Illig, nothing startling has been either discovered or applied relative to sizing. He, with great vision and at great length clearly describes rosin sizing, and today, all that he said and defined holds still as good as when originated, our chemists having been unable to equal him in some other manner of making paper resistant to moisture.

Hence, we still have with us all the superstitions of one and one quarter of a century. True, engine sizing has been superseded to a certain extent by the advent of the large, fast running secondary sizing and drying machines, making it possible to equalize the resistance to moisture when engine sizing falls short. However, since secondary sizing involves expense, and since engine sizing has its great advantages, it is a matter of modification of procedure in the preparation of stock to offset the influence of variable temperature and condition of the river water. If it was possible to artificially regulate the absorption and the temperature of the river water, we would have with us a battery of laws made for and by papermakers. This is how important a role is played by water. Since we cannot blame nature for its gift, we have to make it our business to understand nature, and in doing so, to devise means and ways to offset our limited knowledge handed down by four generations of papermakers. Here, a combination of chemistry, engineering and papermaking must step in to stabilize conditions.

Reforestated Area Burned

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., May 28, 1928.—Twenty thousand young trees set out this spring by the W. H. Loomis Talc Company were destroyed this week when a forest fire was discoverd on the company's preserve at Fullerville. The blaze spread rapidly and several acres of the tract were burned over before the combined efforts of 40 men checked the flames after several hours of frantic labor The Loomis company owns about 3,000 acres in the Fullerville district and has been using this land to carry out a large reforestation program. The company has already planted about 500,000 trees and is adding to this number yearly.

Wisconsin National Forest Planned

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., May 26, 1928.—Creation of a federal forest preserve of 125,000 acres is the first accomplishment toward conserving the fast dwindling pulp wood supply of Wisconsin. The secretary of state's office has sealed and put on record, following the governor's approval, papers creating this preserve in Bayfield county. This land will be one unit of a proposed national forest for Wisconsin. A much larger tract which takes in parts of Vilas, Forest, Oneida and Price counties later will be included, according to present plans.

All of these lands will be bought by the federal government, and set aside for the future. Some difficulty was experienced in gaining consent of the county boards in one or two of these counties, because of the removal of these lands from the tax roll. When it was shown, however, that the lands could not ever become taxable because of any other use, and that they will be of immense value some day later when timber is scarce, the boards consented and assembly members of the body have already been named and commissioner must sanction the sale to the government.

Additional encouragement in the conservation movement backed by the paper mill owners is shown in the effect of the new severance tax law of Wisconsin, which exempts from taxation except for ten cents an acre all lands set aside for the growing of trees. So far the Wisconsin Conservation Commission has applications from owners of about 75,000 acres who desire to convert them to reforestation. It is estimated that at least 100,000 acres will be set aside this year. Part of it will be planted to Jack pine and hemlock so as to obtain logs big enough for pulp wood within ten or fifteen years. Hearings are conducted on all these land applications by the conservation commission before granting the tax exemption. The owner is taxed only at the time the timber is cut under the new regulations.

Reforestation In New York

The reforestation commission authorized by the 1928 legislature of New York will soon start its survey of the New York State lands to determine what steps should be taken to convert this liability into an asset for the commonwealth. The commission will report to the 1929 legislature not later than March 1. Senate and assembly members of the body have already been named and the commission will be completed with the appointment of three members by Governor Smith.

There has been considerable interest in reforestation since 1922 and in that time reforestation acreage has been increased from 60,000 to 140,000. At the present time about 25,000,000 trees are being planted annually on 25,000 acres. It is said, however, that there are now 4,000,000 acres of idle land in New York State which are unsuited for agriculture but which are ideal for forest crops. This land is now valued at but a few dollars an acre. If covered with a group of trees fifty years of age the land would be worth about $400 an acre thus adding greatly to the wealth of the state.

The state now has a number of tree nurseries which supply seedlings and transplants at cost to private landowners and advocates of reforestation to give further impetus to the movement for amending the constitution to permit the state to bond itself for $5,000,000 a year for twenty years. This fund will, it is understood be used for the purchase and reforestation of lands by the state.

Lowe Paper Co. to Close July 1 to 7

RIDGEFIELD, N. J., May 28, 1928.—The Lowe Paper Company has sent the following notice to the trade:—

"Our board mill and coating plant, including all departments, will be closed during the week of July 1 to 7, 1928.

"In order that the embarrassment of this arrangement may be held to a minimum, we would be glad to have you anticipate your needs as much as possible. We will not be in position to manufacture any orders or make any shipments during this time."

Wall Board Patent History

By Joseph Rossman [1]

The following survey is confined to wall boards which consist of but a single layer. The board is usually of a homogeneous structure consisting of interlaced fibers. The materials used may be roughly divided into three classes. The first class embraces grasses, reeds, sugar cane, straw, flax or hemp. The second class contains wood pulp, prepared by chemical or mechanical processes. The third class embraces many waste materals such as sawdust, bark, oat hulls, spent hops, newspaper and peanut shells.

The preparation and disintegration of the raw material in order to produce suitable fibers for producing wall boards differ very widely depending upon the materials used. Wood may be ground to a pulp and then disintegrated in the beaters and finally used for making the board. Chemical pulp can be substituted in whole or in part for ground wood pulp. The wood fibers may also be exploded with or without the treatment of chemicals. One of the earliest patents for this process was granted in 1858 tot Lyman. The process has since been modified and improved as is claimed in the patents to Cushing, Mason, and other patents indicated in the abstracts below. Boards may be made by adhesively uniting shredded material. The Cabot patent for instance provides for uniting shredded wood with viscose and Hallauer unites excelsior by a casein glue. The following abstracts give a complete review of the U. S. patents on single layer wall boards.

United States Patents for Wall Boards Made from Exploded Fibers

1. Lyman 21,077. Aug. 3, 1858

A method of separating wood fibers by charging the mass with hot water, steam or compressed air in a cylinder and then causing it to be projected from said cylinder into the atmosphere where it is subjected to a lower pressure to cause its disruption by the sudden expansion of the fluid within it.

2. Russell 70,474. Nov. 5, 1867

Reeds, cane, bamboo or hemp stalks are subjected to Lyman's steam-blowing process and then beaten into pulp without the treatment with chemicals to make paper boards. By the steam blowing process the fibrous substances are partially disintegrated. The heat of the steam changes the nature of the gums holding the fibers together, so that such gums can be easily washed out or otherwise got rid of.

3. Russell 88,515. Mar. 30, 1869

Cane or reeds are distintegrated by the explosive force of steam. The fibers are cleaned by passing them through water on an apron. The water is removed by passing the fibers between rollers. Two or more sheets may be also united by rosin, size or glue to form a laminated board. Roofing paper is made by use of 33 to 75 per cent exploded cane fiber and the balance of wool-rag pulp.

4. Arnold 130,615. Aug. 20, 1872

Reed-cane disintegrated by the explosive force of steam is mixed with straw-pulp or hard stock and treated with rosin size and alum for making wall boards.

5. Blackman 369,836. Sept. 13, 1887

Fibrous substances are reduced to pulp, placed in a closed digesting vessel and exposed to the action of water, with or without other chemicals, and under more or less pressure, until the material is dissolved or softened. The material charged with fluid under heavy pressure is forced out from the digester through a contracted nozzle into a vacuum chamber. The material as it escapes from the nozzle is disrupted by the sudden explosion of the fluid in the interstices of the fibers.

6. Cushing 788,633. May 2, 1905

Refuse wood, bark or sawdust is ground into chips, subjected to steam under pressure and then exploded and ground while hot to produce a highly fibrous pulp.

7. Mason 1,578,609. Mar. 30, 1926

A process of disintegrating ligno-cellulose material, which consists in placing said material in a vertically arranged pressure chamber, subjecting the same to the action of steam under high pressure and progressively forcing said material out of said chamber through a narrow opening in the lower end thereof, while maintaining a high pressure within said chamber.

8. Mason 1,586,159. May 25, 1926

A process similar to patent No. 1,578,609 comprising the additional step of introducing compressed gas into the chamber at a pressure higher than that of the steam and discharging the contents whereby the material is disintegrated without charring.

9. Mason 1,655,618. Jan. 10, 1928

The process of fibrating and refining ligno-cellulose material, which consists in exploding same by discharging from under high pressure in a plurality of streams consisting substantially entirely of the fibrated material and directing the issuing streams of fiber to meet one another, thereby utilizing velocity energy for additional impact refinement of the discharged fibrated material. This patent discloses a suitable apparatus for carrying out this process.

10. Chidester 1,659,809. Feb. 21, 1928

The method of freeing the cellulose fibers of vegetable materials consisting in cooking the said material in a closed container and in a chemical solution tending to free the cellulose from the accompanying materials, then releasing the contents of the container, through a conduit into an open vessel filled with cold water to about two-thirds of its capacity, maintaining the low temperature of the water with the conduit arranged perpendicular to the surface of the liquid, the mouth of the conduit located a substantial distance below said surface, agitating the liquid adjacent the mouth of the conduit, whereby to induce a reaction in the mass of material emitted by said conduit tending to disrupt such material and to separate the cellulose fibers thereof. The sudden cooling of the fibers tends to separate them, the material being agitated by the disturbance of the liquid in the vessel due to the rapid cooling and condensing of the gases and vapors.

11. Mason 1,663,503. Mar. 20, 1928

A process of making structural insulating board of ligno-cellulose fiber exploded from high pressure. The step of fibration is accomplished by discharging ligno-cellulose material, such as wood for example, taken in its natural state, except reduced to chips of about the size ordinarily made use of in chemical digesters for paper manufacture, from a gun having a restricted valved outlet or outlets, and in which gun said material is subjected for a part of a minute, a sufficient time to secure penetration, to heated gas, preferably steam, at a pressure in excess of 275 pounds per square inch, and preferably in the neighborhood of 800 to 1,000 pounds per square inch, the discharge being progressively accomplished through the restricted outlet or outlets, and the wood being exploded on discharge into a very highly subdivided, fibrous state. The fibers are formed into sheet form in hot water, passed through press rolls and dried.

12. Mason 1,663,504. Mar. 20, 1928

Process of making a true surfaced, stiff and strong integral structural insulating board, porous throughout but having its inner portion of relatively high and its skin portions of relatively lower porosity, which consists in forming fiber of wood or woody material containing at least a greater part of its original lignins, exploded from under high pressure into sheets felted from a water bath, introducing the felted material between heated press platens, pressing to a predetermined thickness by forcing the platens relatively toward one another and stopping their motion at a predetermined distance apart sufficient to maintain the desired porosity, whereby when the sheets so held are dried to approximately the

[1] Patent Attorney, Washington, D. C.

fiber saturation point their fibers become set in such relation, and completing the drying while still in the press and subject to the heat thereof without being subject to material pressure.

13. Mason 1,663,505. Mar. 20, 1928.

The process of making a grainless hard wood board which consists in exploding wood by discharging from pressures in excess of 275 pounds per sq. in. through a constricted outlet or outlets into substantially fibrous material comprising practically all the substance of the original wood or woody material, soaking said fibrous material with water, and subjecting the moist fibrous material to pressure of the order of 200 lbs. to 700 lbs. per sq. in. while heating to a temperature of the order of the temperature of steam at approximately 70 lb. per sq. in. or over following up the pressure during shrinkage and until practically completely free from moisture and with wire mesh material in contact with at least one side of the sheet being pressed whereby escape of steam and other gases is facilitated.

14. Mason 1,663,506. Mar. 20, 1928

The process of forming integral fiber boards comprising adjacent portions which are respectively of high density and high porosity, which comprises applying heat and pressure to a body of wood or woody fiber obtained by explosion from under a high pressure and containing practically all the original wood or woody material until welding or coalescing of the fibers into permanent relation has extended therein to a material extent but not therethrough, and releasing the pressure whereby the portion to which welding or coalescing has not extended is permitted to expand into highly porous state.

United States Patents for Other Types of Wall Boards

1. Dixon 45,321. Dec. 6, 1864

Straw, sorghum, cornstalk, husks, bagasse, reeds, flax or manila are treated with waste wood-pulp liquor to form an inferior grade of pulp for boards.

2. Cobb 111,611. Feb. 7, 1871

A process in making waterproof wall board which consists in coating the upper surface of the warm board after leaving the driers with oil. The board is then passed through a vat containing warm linseed-oil and rosin by which both sides are coated.

3. Jones 158,641. Jan. 12, 1875

Grasses or fibrous plants of the field or swamp are ground in the green state directly from the fields in the ordinary rag or grinding engine either alone or with paper stock. This stock is run into boards without boiling or chemical treatment.

4. Cobb 174,484. Mar. 7, 1876

A paper board made from cedar-wood pulp. The cedar-wood is ground mixed with water, without the use of chemicals, and the board made directly therefrom.

5. Le Burgeois 278,977. June 5, 1883

Sugar cane, corn stalks, cotton plants, palmetto, or swamp cane are subjected to a pressure great enough to break up the cellular tissues and to remove resins, acids or extraneous matter. Blocks are formed from this material for transportation.

6. Johns 300,374. June 17, 1884

Boards are formed from asbestos pulp, or asbestos mixed with other suitable material. A design is embossed on one face of the board.

7. Carey 300,946. June 24, 1884

A pulp board composed of wood pulp, asbestos or any other mineral fiber and any suitable clay, mixed together while in a pulp state, then pressed or rolled into a board and coated with asbestos, asphalt or any other fire or water proof paint.

8. Merrill 363,905. May 31, 1887

A fire-proof paper board of vegetable fiber, asbestos, alum or copperas, and plumbago or any other coloring matter, coated on one or both surfaces with silicate of soda or tungstate of soda.

9. McEwan 492,927. May 7, 1893

A board made from ground newspaper.

10. Knoch 551,588. Dec. 17, 1895

Building blocks made from paper pulp, peanut shells, gum tragacanth and caustic soda.

11. Keyes 645,035. Mar. 6, 1900

A method of making fire proof pulp board which consists in grinding wood in the presence of a fire proofing liquid.

12. McMullen 675,234. May 28, 1901

A homogeneous board composed of oat hulls which have been digested with lime.

13. Armistead 719,982. Feb. 10, 1903

A board made from cotton-seed hulls.

14. Lappen 908,681. Jan. 5, 1909

A board made from long, partly degummed flax fibers and woody particles intertangled and matted together.

15. Downs 918,740. April 20, 1909

A paper board containing spent hops having the seeds minutely subdivided and distributed throughout the board.

16. Cabot 991,271. May 2, 1911

An insulating board composed of a tangled mass of shredded wood adhesively secured by viscose and compressed together.

17. Manson 1,067,825. July 22, 1913

A non-laminated pulp board of integral structure composed of assembled fibers, the interiorly located fibers being in irregular arrangement while the exteriorly presented fibers and portions of fibers are in substantially parallel arrangement in the same general direction and in the plane of the surface of the board to form a nap.

18. Muench 1,153,512. Sept. 14, 1915

A heat insulating board composed of wood pulp tailings felted into a sheet and water proofed.

19. Harden 1,198,028. Sept. 12, 1916

An insulating sheet made of low grade paper pulp and unground stems of raw whole straw, intermingled and felted together.

20. Lappen 1,225,443. May 8, 1917

A board composed of long partially purified fibers of cereal straw felted and agglomerated with a binder of the components of said straw.

21. Toles 1,262,872. Apr. 16, 1918

Rice straw is boiled in weak alkali without pulping or disintegrating and made into wall boards or any other building material.

22. Wessel 1,295,654. Feb. 25, 1919

Flax, cereal straw and peat intermingled and pressed into sheets.

23. McKay 1,365,711. Jan. 18, 1921

A weather resisting covering consisting of shreds of vegetable products such as straw, or chopped shreds of cloth, paper or rope arranged in criss-cross and tangled relation coated with a water proof material.

24. Manson 1,399,976. Dec. 13, 1921

Saw mill waste, edgings, slats, bark and shavings are ground between grinding surfaces set a short distance apart. The fibers disintegrate by rubbing against each other and are used in making fiber boards.

25. Chew 1,423,083. July 18, 1922

A method of making fiber board which consists in steam cooking chip waste, introducing water into the mass, beating the water permeated mass, then screening it, agitating and feeding the mass to a press to form a board.

26. Shaw 1,457,285. May 29, 1923

Bagasse or sugar cane disintegrated by caustic soda and formed into a wall board.

27. Weiss 1,489,567. April 8, 1924

Insulating material made of felted wood fibers. The surface of the sheet is coated with asphalt.

28. Kopp 1,542,559. June 16, 1925

A method of making fiber board from wood bark which comprises removing water from the bark, shredding the bark, removing the cork-like impurities from the fibers, arranging them in a layer, applying a binder and compressing the fibers into a board.

29. Shaw 1,572,565. Feb. 9, 1926

A process of producing a substitute for lumber from flexible and strong bagasses and analogous pith carrying fibers which consists in cooking the fibers with their natural pith under atmospheric pressure and at a temperature not exceeding 212 deg. F. in an alkali solution for a time sufficient to loosen their encrusting materials but insufficient to produce paper making fibers, separating out said fibers from their encrusting material, recovering the compounds displayed by the cooking action, and forming said fibers by water deposition into a substitute for lumber.

30. Munroe 1,574,254. Feb. 23, 1926

Bagasse fibers are subjected to a fermenting action, then mixed with 3 per cent wood fibers, boiled and formed into a board.

31. Sutherland 1,598,260. Aug. 31, 1926

A pulp board produced by compacting at a temperature higher than 212 deg. F. dried sponge board containing a binder and an amount of water approximately equal to the normal moisture of the fiber content and cooling the board to a temperature of less than 212 deg. F. before releasing the pressure.

32. Skolnik 1,599,253. Sept. 7, 1926

A process of making wall boards which consists in cutting cornstalks into piecses, reducing said pieces to a pulp with a chemical agent, pressing the pulp into a sheet, and subjecting the sheet to a bath of waterproofing material.

33. Coolidge 1,609,642. Dec. 7, 1926

A process of steaming fiber board, extracting the moisture from the board so steamed and forcing a melted waxy material such as Montan wax into the pores.

34. Hinde 1,623,184. Apr. 5, 1927

A wall board comprising a shaped mass of long and short corn fibers bonded together with a vegetable adhesive derived from corn waste.

35. Mason 1,627,103. May 3, 1927

A fiber board comprising a body of crushed and refined bagasse fiber admixed with raw bagasse, and surface layers of paper composed of cooked and refined bagasse fiber.

36. Weiss 1,631,171. June 7, 1927

A wall board consisting of a binder and a filler, the binder being a dried gelatinous mass of mechanically disintegrated ligno-cellulose from saw mill refuse and the filler consisting of untreated sawdust, the binder being dyed one color and the filler being of a different color.

37. Weiss 1,631,172. June 7 ,1927

The method of preparing wall board binder which consists in mechanically disintegrating ligno-cellulose in hot water until at least 25 per cent of the mass by dry weight has been reduced to a structureless gelatinous mass by crushing and rolling between relatively rotating discs.

38. Weiss 1,631,173. June 7, 1927

Artificial lumber consisting of a dried gelatinous mass of mechanically disintegrated ligno-cellulose intermixed with the residue of partially gelatinized fiber aggregates, said mass being fireproofed throughout.

39. Hallauer 1,634,462. July 5, 1927

A building board consisting of excelsior strands united by a water-resistant protein glue.

40. Sweeney 1,639,152. Aug. 16, 1927

Cornstalks are cooked in the presence of soda, lime or sulphite and then subjected to the action of micro-organisms so as to partially disintegrate the fibers and finally subjected to the action of a mechanical beater for making wall board.

41. Mitchell 1,648,237. Nov. 8, 1927

A process of making a board consisting in separately cooking fibers of sugar cane bagasse and fibers of sisal leaves bagasse under pressure and at a temperature above 212 degrees Fahrenheit; mixing said sisal leaf fibers with paper stock and cooking the mixture at a comparatively low temperature and atmospheric pressure; and then mixing all said fibers and forming said stock mixture into sheets by paper making processes.

42. Price 1,656,829. Jan. 17, 1928

In the treatment of bagasse preparatory to pulp board making bringing the water suspending the bagasse to boiling point adding caustic soda and continuing the boiling with stirring for about an hour, then passing the bagasse through rollers, and again boiling the pulp for about an hour.

43. Hinde 1,659,688. Feb. 21, 1928

The method of producing an endless reinforced column of artificial timber, consisting in shredding waste fibrous material or waste wood and boiling the same to refine it, adding cementitious matter thereto and continuously forcing the pulp thus produced through suitable dies simultaneously with metallic reinforcing elements to form the pulp in columnar shape simultaneously with the introduction of spaced longitudinal metal strands through the same.

Lath Boards

Lath boards have been developed to eliminate the more expensive wood lath used in building structures. The usual lath board consists of a board having grooves or indentations formed on one face which receives the plaster. The grooves serve to retain and hold the plaster securely to the board. The lath board is easily nailed in place. It is then a simple matter to apply a coat of plaster to its outer surface. Lath boards have also been made from plaster boards which have one face indented or grooved. This survey however is limited to fibrous lath boards only. In using a fibrous base such as celotex for the lath board a combined heat insulating and lath board is provided. The early type of lath board merely consisted of corrugated or perforated paper board which received the plaster coat. Another class of lath boards is made by affixing lath strips to a fibrous base. A unitary lath board was then made by simply grooving or perforating an insulite or celotex board. The grooves are formed either by a cutting tool or by simply molding the wet fibers. Still another type of lath board has projections on its surface for keying the plaster. The U. S. patents on these different types of boards are given in the following abstracts.

1. Herbert 148,562. Mar. 17, 1874

A board upon which plaster is applied composed of any suitable fibrous material or of ligneous substances made into sheets such as a thick, coarse paper, paste board, straw board or felt paper. The board may be plain or perforated, flat corrugated or embossed to receive the plaster.

2. Sharp 689,424. Dec. 24, 1901

A lath board composed of compressed pulp, such as paper or straw board pulp, capable of being softened and disintegrated by moisture, and containing a gelatinous substance or size also capable of being released by moisture, said board having plaster-receiving apertures therein.

3. Ellis 1,126,186. Jan. 26, 1915

A composite lath and heat insulating material comprising a felted body of straw, corn stalks, hemp or flax, a water-proof facing applied thereto, lath applied to the water-proof facing and metallic staples securing the lath to the felted body. The laths are provided with beveled edges to form dove-tailed channels to receive plaster.

4. Ellis 1,126,187. Jan. 26, 1915.

A composite lath and heat insulating material comprising a cellulose fibrous filler loosely matted such as tow or flax or hemp fibers, a pair of facing sheets between which the filler is held, wooden lath applied to one of the facing sheets and staples fastening the lath to the filler.

5. Ellis. 1,228,422. June 5, 1917

A composite lath and heat insulating material comprising a felted flexible insulating sheet and a vegetable fiber board lath secured thereto.

6. Herbert 1,303,313. May 13, 1919

A lath board made of thin wood cuttings such as excelsior cemented together with silicate of soda and whiting. The rough surface presents a keying means for the applied plaster.

7. Shaw 1,306,283. June 10, 1919

Insulite board is provided with perforations or indentations on one face to receive a coating of plaster.

8. Ellis 1,317,158. Sept. 30, 1919

A lath board composed of disintegrated vegetable fiber pulp, such as pulped waste paper, and formed with parallel dove-tailed grooves for interlocking plaster to the board.

9. Munroe 1,333,628. Mar. 16, 1920

An "insulite" board is provided with dove-tailed grooves and coated with tar, asphalt or pitch.

10. Muench 1,337,254. Apr. 20, 1920

A board made from wood pulp tailings, screenings, waste paper, bark, straw or peat provided with dove-tailed grooves while still moist as it comes from the felting machine.

13. Muench 1,417,552. May 30, 1922

A board composed of a plurality of classes of felted cellulose fibers and provided with clean cut indentations to receive plaster.

12. Muench 1,417,553. May 30, 1922

A thermal insulating block made of felted cellulose fibrous material and provided with integral lugs or projections.

13. Ellis 1,437,503. Dec. 5, 1922

A process of making insulating lath board which consists in molding cereal straws disintegrated and pulped to a "half stock" in a mold having perforated pressing members and provided in the bottom with dove-tailed core bars to produce grooves in the board.

14. Caffrey 1,447,708. Mar. 6, 1923

Flax straw or other long fibrous material are caused to adhere to one another by a transparent cement. The fibers are separated at predetermined places to provide openings for receiving plaster.

15. Munroe 1,486,535. Mar. 11, 1924

Celotex board is coated with a layer of asphalt in which is embedded small pieces of crushed rock. This makes a good receiving surface for cement stuccos and concrete.

16. Shaw 1,503,211. July 29, 1924

A lath board having a relatively hard and strong layer of bagasse fibers interlaced with a relatively soft and yielding layer of bagasse fibers, the soft layer being provided with depressions to receive plaster.

17. Dahlberg 1,503,783. Aug. 5, 1924

A celotex board is provided with perforations to receive plaster.

18. Ellis 1,510,662. Oct. 7, 1924

A fiber board made from cereal straws or from pulped waste paper is provided with projecting button-like members on one face of the board.

19. Shaw 1,534,088. April 21, 1925

An "insulite" board is provided with undercut grooves to receive plaster.

20. Rolfe 1,534,142. April 21, 1925

A lath board having a face of a firm texture of considerable thickness having plaster keying means and a back board formed with a loose texture and of high insulating qualities joined thereto.

21. Doe 1,541,332. June 9, 1925

Strips of palmetto wood are provided with alternating ribs and grooves to receive plaster.

22. Ellis 1,562,499. Nov. 24, 1925

A board similar to patent No. 1,510,662 having somewhat greater projections, the surface of the board between the projections being ribbed or corrugated.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

Constant Humidity Cabinet for Testing Paper. F. T. Carson. U. S. pat. 1,642,577, Sept. 13, 1927. The apparatus consists of a cabinet in which the paper can be tested without opening the cabinet to the outside air at any time. Air is taken from the cabinet through a blower at the rate of about 1 cubic foot per minute, is bubbled through sulphuric acid of the proper concentration to maintain the desired relative humidity, and is then returned to the cabinet. The testing instrument is placed inside the cabinet which normally has no communication with the outside air. The specimens are handled and the tester is manipulated by means of flexible sleeves which terminate in rubber gloves into which the hands of the operator are placed.—A. P.-C.

Machinery

Waste Paper Stock Digester. C. Riddle, assignor, to the McNeil Boiler Co. U. S. pat. 1,639,613, Aug. 16, 1927. The chief objects of the invention are to provide a double-walled digester constructed so as to permit the introduction of steam to either the outer jacket or the inner portion of the tank as required, and so as to permit of expansion and contraction without danger of loosening the walls. The outer wall is in the form of a heavy steel cylinder with riveted heads carrying the trunnions. Midway between the ends and opposite each other are the charging and discharging openings. The inner wall or lining of the tank is formed of two circumferentially corrugated steel shells which are riveted to the tank body at either side of the central openings, so that the latter pass through the single outer wall only. The free ends of the corrugated inner shells are riveted to heads each of which is provided with a central bearing-plate formed with an extension which is slidably received in a recess in the trunnion at that end, the projection being provided with grooves that admit steam from the center of the trunnion to the jacketed space between the walls of the digester. In order to prevent the retention of the contents of the tank within the shell when the latter is being emptied, fillers or inserts are provided at the bottom and are placed within the corrugations and extend up along the walls a short distance. If the digester is not constructed to be rotated, a rotable shaft with vanes or paddles is provided.—A. P.-C.

Industrial Research Paper Laboratories. C. J. West. Paper Trade J. 85, No. 6, 49-53 (Aug. 11, 1927). A list of industrial research laboratories working on pulp and paper problems, or problems related to the industry, with the importance of their staffs and nature of the work carried out.—A. P.-C.

Method of Mixing Pulps. W. E. Rosebush assignor to Inland Empire Paper Co. U. S. pat. 1,631,762 June 7, 1927. Separately deckered sulphite pulp is combined with screened wood pulp and the mixture of the two pulps is then deckered. —A. P.-C.

Hydrogen-Ion Control in Industrial Processes. W. A. Taylor. Ind. Eng. Chem., 19, 999-1004 (Sept. 1927). An explanation in simple terms of the meaning of hydrogen-ion concentration and pH, and of its colorimetric determination.—A. P.-C.

Beater. G. S. Witham, Jr. U. S. pat. 1,639,917, Aug. 23, 1927 The motor is connected directly with the beater roll, and the parts are so mounted that the roll and motor may be adjusted together toward or away from the bed plate without disturbing

the connection between them, and may be held in adjusted relation with respect to the bedplate. The doctor blade is suspended at such a point that when the free edge of the blade touches the beater roll the blade will be almost or entirely vertical, moreover, the free edge of the doctor engages the beater roll below its center and between the roll and backfall. With this arrangment the blade cuts the stock clean from the roll and there is no possibility of unbroken stock pushing the blade out of position. The arrangement also makes it possible to increase the height of the backfall and to make a larger chamber in the rear thereof. The roll is preferably made of manganese steel and the knives are integral with the body, of substantially uniform thickness, and inclined or curved in a direction opposite to the direction of normal rotation of the roll. The curved shape of the knives assists in cutting and propelling the stock. Because of its integral construction and the strength of the material used, the roll may be made smaller than with the usual construction and may be driven at a higher speed. The blades act on the stock in somewhat the same manner as a centrifugal pump, increasing the velocity of the circulation, which is also increased by the high speed of the roll.—A. P.-C.

Method of and Apparatus for Controlling the Moisture Content of Paper. F. E. P. Klages, assignor to The Powers Regulator Co. U. S. pat. 1,633,817, June 28, 1927. A slotted pipe is placed to extend across the machine close to one of the driers at the beginning of the last series of drier-rolls. The air drawn through this pipe is passed over a thermostatic bulb which is covered by a wet wick. The humidity of the air from the drier determines the temperature of the bulb, and variations in this temperature act on a diaphragm which regulates the admission of exhaust and live steam to the driers. At the end of the driers, near the calenders, the moisture content is so small that accurate control cannot be effected, as variations in the humidity of the air have a negligible effect on the thermostatic bulb; similarly, at the wet end of the driers the atmosphere is practically saturated under the extreme conditions of moisture content of the sheet.—A. P.-C.

Paper Reel. H. Liebeck assignor to Scott Paper Co., U. S. pat. 1,633,595, June 28, 1927. The winding drum is loosely journalled to rotate about its shaft and is driven at the same peripheral speed as the last drier. Secured to the ends of the shaft are mandrel-carrying frames provided with radial guide-slots, preferably four in number, arranged equidistant about the axis of the shaft. Means are provided for automatically feeding the empty mandrels to the slots in the end frames and for discharging the finished rolls, after which the mandrel-carrying frames are rotated so as to bring the succeeding mandrel into its winding position.—A. P.-C.

Winding Machine. J. A. Cameron and G. B. Birch assignors to Cameron Machine Co., U. S. pat. 1,642,669, Sept. 20, 1927. The construction provides for the automatic rise of the top pressure roll as the wound roll increases in diameter and also for the raising and lowering of the top pressure roll independently of the wound roll, in such a manner as to keep both ends of the roll even so that it will exert even pressure when lowered on to the roll of paper.—A. P.-C.

Drive for Paper Machine Driers. P. Priem, assignor to American Voith Contact Co. U. S. pat. 1,635,765, July 12, 1927. The essentials of the drive are supported by bearings located on a pedestal which stands isolated from the frame of the paper machine itself, and each cylinder is connected with the adjacent part of the drive by means of a flexible coupling.—A. P.-C.

White Water Systems. C. E. Youngchild. Paper Mill 50, No. 40, 18, 36 (Oct. 1, 1927). A brief description of the system used in the Port Edwards mills of the Nekoosa-Edwards Paper Co.—A. P.-C.

Importance of the "Riding Roller" in Slitting and Roll-Winding Machines. Anon. Paper Mill 50, No. 38, 18, 36, 38 (Sept. 17, 1927). A discussion of the function of the "riding roller" in obtaining well-wound rolls.—A. P.-C.

Paper Cutter. J. Mulroney. Eng. pat. 274,715. The knife in this improved cutting machine is mounted in movable relation to the feed table. A gauge is provided to ensure the paper being accurately placed in relation to the knife. The gauge is controlled by fingers which are automatically moved in any desired sequence into and out of the path of the gauge.—A. P.-C.

Rewinder. H. H. Mulwert. Fr. pat. 623,546. In order to obtain uniform rewinding of light papers, such as tissues, without subjecting the sheet to excessive tension which might break it, the roll which is being unwound and the one which is being wound are both driven frictionally at the same peripheral speed, *e.g.*, by means of a felt passing around both rolls, or by supporting each of the rolls on two driving rolls which are driven by identical worm gears on a common shaft.—A. P.-C.

Attachment for Sheeting Machines. J. P. Renz. U. S. pat. 1,642,746, Sept. 20, 1927. A sheeting machine is provided with an attachment, controlled and operated at intervals by a counting mechanism, to form a loop or slack in the paper web passing through the sheeting machine at a predetermined time and in front of the cutter, to supply separator or marker sheets slightly longer than the stack sheets immediately ahead and immediately following; so that when the counted sheets are delivered finally to the layboy, the separator or marker sheets project beyond the rear edge of the stack, and the operator need only thrust a finger under the marker sheet to raise a counted bunch from the pile, thus assuring speed and accuracy in unloading the layboy.—A. P.-C.

Process for Moistening and Coloring Highly Glazed Papers. E. Fues. Fr. pat. 622,981. In order to obtain thorough moistening, the paper is treated with a considerable excess of water or of coloring solution and is then passed between press rolls to remove the excess before calendering.—A. P.-C.

Paper Cutter. T. B. Munroe assignor to Dahlberg & Co. U. S. pat. 1,629,522, May 24, 1927. The paper is cut transversely, while the sheet is travelling, by means of a cutter which is moved diagonally across the sheet, the angle of travel being proportional to the relative speeds of the cutter and the sheet. Automatic means are provided to return the cutter to its starting point and remain there for a predetermined period of time before starting a new cut.—A. P.-C.

Machine for Automatically Cutting Moving Webs of Paper. W. E. Molins. U. S. pat. 1,631,879, June 7, 1927. The cutter comprises a fixed blade and a movable blade cooperating with the fixed blade to effect a shearing action on the web fed through the space between the separated blades. A resilient deflector is provided, which is inclined to the plane of the fixed blade in such a manner that the leading edge thereof is located in close proximity to the edge of the fixed blade and in the path of the moving blade.—A. P.-C.

Belt for Paperfinishing Machines. F. C. Ladd and F. G. Neal assignors to Eastern Mfg. Co. U. S. pat. 1,641,173, Sept. 6, 1927. An endless band adapted for use in paper-finishing machines comprised a pair of plies adhesively secured together, one of which is composed of fabric having a pattern which is to be reproduced upon the paper. The joint in this fabric is formed by abutting the cleanly severed warp threads, the joint in the other ply is similarly made, and the two joints are spaced a suitable distance apart, so that the paper will be free from blemishes due to the joints.—A. P.-C.

Machine for Manufacturing Corrugated Board. J. Kramer and A. H. Israel. U. S. pat. 1,629,511, May 24, 1927. The sheet is moistened, corrugated, and dried by directing air currents against it. Adhesive is applied to the crests of the corrugations, a facing sheet is applied on to the adhesive-coated crests of the corrugations, and drying air is directed through the channels formed by the corrugations.—A. P.-C.

Special Papers

Reducing Costs and Increasing Efficiency in the News Print Paper Industry. George D. Bearce. Paper Trade J. 85, No.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Edited by
THOS. J. BURKE, C. A., Sec.-Treas.

Human Engineering

By Charles M. Schwab*

Forward-looking management, as well as far-sighted representatives of employees, are coming to realize that if full benefits are to be had from the creations of engineers, industry must be viewed as a co-operative undertaking, in the advancement of which every supervisor and every employee is an important factor. They recognize that conflict between capital and labor is destructive of the interests of each; that it is unnecessary and mutually expensive.

Herein lies a field in which expert service in elisting the interest and confidence and good-will of the workers becomes just as important as the study that has been given to the characteristics and utilization of materials. Out of its solution comes a new code of economics, a code that aims not only to provide food and clothing and shelter, but also to elevate society at large and to place a true dignity upon labor, a dignity that yields a fuller and happier measure of life. It is highly fitting that we in America have led the way to better industrial relations, for indeed there is being brought forward a truer realization of the principles set forth in that great document signed at the inception of our nation enunciating the doctrine that among the inalienable rights of men are life, liberty and the pursuit of happiness.

But this happiness does not lie along the road of abolishing work, for work is the cornerstone of real happiness. It lies in the doing of the day's work with a zest and good-will, under the spur of encouragement and rewarded with the satisfaction of achievement. This requires the co-operation of labor itself, not merely of the hand but of the heart as well. To obtain that co-operation requires leadership in industry that regards itself not as partisan but as a trustee striving to guide the efforts of both capital and labor into profitable channels.

Responsibility of Engineers in Human Relations

One cannot reflect on the subject of human engineering without realizing the tremendous responsibility that rests upon management in guiding the destiny of mankind. Indeed we are impressed that the solution of this problem holds out a challenge to industrial statesmanship that is of paramount importance to the prosperity of our nation. It is a tribute to American industrial management that these principles have largely been recognized, and that in this country today the parties to industry generally recognize their responsibilities and opportunities.

Efforts to Solve Capital-Labor Problem

From the problem growing out of employer-employee relationships in modern large-scale industry, let us turn now to the efforts at solution that have been made by engineers and managers in responsible control of business enterprises. In dealing concretely with this part of the subject, I hope I may be pardoned for drawing illustrations largely from the experiences of the Bethlehem Steel Corporation, which is only one of many industrial concerns that in recent years have taken advanced positions in this vitally important subject.

Our job primarily is to make steel, but it is being made under a system which must be justified. If in addition to manufacturing products this system does not enable men to live on an increasingly higher plane, if it does not allow them to fulfil their desires and satisfy their reasonable wants, then it is natural that the system itself should fail.

Reasonable Wants of Industrial Workers

What are these reasonable wants of employees, which they have a right to see satisfied as far as conditions of industry permit? I believe they include the payment of fair wages for efficient services; steady, uninterrupted employment; safe-guarding of their lives and health, good physical working conditions; a voice in the regulation of conditions under which they work; provision for them to lay up savings and to become partners in the business through stock ownership; and finally, some guarantee of financial independence in old age.

Modern Management and the Question of Wages

The desire of labor in connection with wages can, I believe, best be fulfilled by rewarding men in accordance with their contributions toward the success of the business. It is fundamental with human beings that they want individual recognition of and reward for their talents and achievements. This is the crux of the wage problem. The nearer we can come to fulfilling this want on a sound, justifiable basis that recognizes individual merit, the sooner shall we witness the solving of a long-standing and contentious question.

Relations in industry have sometimes become strained over the fundamental question of wages. The area of conflict was widened because of adherence to a policy which sought to group together at a uniform wage, regardless of individual performance, large bodies of workers even though geographically widely separated. Such a policy often tended to discourage effort and to reduce individual output to a standard set by the least efficient worker.

We have traveled far in our thinking on this fundamental question of reward for service. We have come to have a new viewpoint toward the payment of wages. Our better relationships have brought a clearer understanding of the reciprocal value to national well-being of a class of well-paid workers whose buying power is

* President's Address at the Annual Meeting, New York, N. Y., Dec. 5 to 8, 1927, of The American Society of Mechanical Engineers. Introductory paragraphs, commenting on the relation between the progress of civilization and that of engineering arts are omitted. From Law and Labor.

sufficient to take the output of our mass production. We are ambitious to see our workers receive an adequate wage—a wage that is sufficient to afford a worker and his family a decent standard of living with a margin for laying something aside—but we cannot entertain any uneconomic theories as to doles or subsidies. We cannot lose sight of the fundamental law that requires full value in services for wages paid.

How to measure and relate output and wages on some fair basis has become an important function of management. We now realize the essential benefits derived from relating compensation to the contribution made by the individual, with the result that under the stimulus of measured return for service rendered, there is an increasing tendency for men to take a keener interest in the business, much as if they owned it. This applies to workers as well as managers.

Economic Status of American Wage Earners

The economic position of our workers has become the wonder of the world. The earnings of American wage earners in terms of what they can buy are probably greater now than at any previous period in American history; certainly they are far greater than those of the workingmen in any other country of the world. In the face of these higher earnings our foreign brothers marvel at the coincidence of lower costs. The answer is that American workmen have come to realize that wages and profits are paid out of the same pocketbook and that the return to each must be proportionate to effort expended. American workmen are responding to the bid that is being made for their co-operation and realize the important factor they are in the success of the business, and they appreciate that their employers under an enlightened human-relations policy are striving to provide as high wages as can be paid consistent with sound management and the safe-guarding of the investment and in line with general economic conditions.

Steady Employment

High wages do no good to the man who has no chance to earn them. Hourly and daily rates mean little to the employee who can work only a few days a month or a few months out of the year. Steady employment, therefore, ranks high among the needs of the workman. During the last few years industrial managers have been giving much thought to this question—to the elimination of the evil of unemployment. It has come to be realized that peaks and valleys of industrial activity, during which, periods of feverish effort to get our products alternate with periods of idleness and stagnation, not only are undesirable from the standpoint of the working man but are wasteful and expensive to industry and to society as a whole. Toward the leveling of these peaks and valleys much has been done by the intelligent efforts of management; perhaps even more has been accomplished as a result of the sustained purchasing power built upon high wages and of the changed buying methods of the public. This last-named element, in turn, has resulted largely from the increased capacity and reliability of both production and transportation. Thus we see the interdependence of all the elements in that intricate machine we call industry.

The records of our own company illustrate the substantial progress which has been made in reducing these peaks and valleys. Whereas the high and low points of employment a few years ago fluctuated fifty per cent from the average, during the following years these fluctuations were steadily reduced until in 1926 the high and low points of employment as measured by the payroll varied hardly eight per cent from the average for the year. This regularity of work is not only of vital importance to employees but it has a far-reaching influence on good business.

Financial Interest in the Business

But even with good wages and steady employment, the working man is likely to lack one factor essential to his fullest efficiency and greatest interest in the company by which he is employed. This factor is ownership. A sense of proprietorship affords a powerful incentive to arouse interest in the performance of work. This principle has been the motivating influence of those who have been willing to take the risk incident to the building of all business. Its application to the wage earner in industry is relatively new, yet nowhere is the wholehearted interest of human beings so necessary and vital to successful accomplishment. Recent years have seen a considerable growth in stock ownership by industrial employees. I would not minimize the possibilities of danger involved in this practice, nor would I urge every company, regardless of the character of its securities, to enlist its wage earners as partners. Under favorable circumstances, however, and with the proper safeguards against speculation and possible loss, stock ownership by employees may be one of the most successful incentives to thrift and to vital interest in the enterprise. We are greatly encouraged with the results of our own experience along this line. In our efforts to increase the interest of our employees in the business and at the same time to afford them a means of saving and investment, Bethlehem has for several years encouraged the employees to acquire ownership through the Employees' Saving and Stock Ownership Plan.

That they have enthusiastically responded to this opportunity is shown by the fact that in the short period of four years over fifty per cent of our employees have either paid or are paying for substantially seventeen per cent of the corporation's stock of this class outstanding, representing an investment at par value of $17,000,000.

It is gratifying and highly significant as reflecting the present economic position of the workers that their wages have permitted them to make such substantial savings, but it is equally significant that they now have become capitalists with a financial interest in the business.

Under a plan of this kind the mutuality of interest which should exist in industry finds its greatest expression. On the one hand the company prospers because the employees strive for the elimination of waste and the better doing of their jobs, and on the other hand the employees themselves profit as the company prospers.

Cooperation Through Representation Plan

Successful human relations in industry recognize that the interests of employees and employers are mutual. It is recognized that as enemies they cannot long endure; they must be friends. The very nature of their aim for profit creates an interest in one another's well-being.

It is true that just as in any human relationships there are day-by-day problems arising in industrial relations which, if not settled with full justice to each, will threaten this bond of friendship. But the need for a medium for preventing or adjusting breaches in relations is not the whole objective of employees and employers. Essentially these two parties have been seeking a medium that would provide a common meeting ground. They have really been seeking for a way of living together which would permit an expression of their personality and yet cement and increase this friendship. The employee-representation movement is such a constructive medium, permitting not only settlement of questions on which there is a conflict of interest, but, of even more importance, offering an unobstructed channel through which their unity of interest may be promoted.

The cornerstone of Bethlehem's relations with its employees, in so far as their direct contact with the company in their daily job is concerned, is the employees' representation plan which was inaugurated nine years ago. To this plan and to good faith in living up to its provisions is to be attributed much of the gain in co-operation and good-will which we enjoy in our internal relationships.

Our company was one of the first to inaugurate employee-representation in its plants and in the early stages of the plan there was a natural tendency to lay the greatest emphasis upon its possibilities as a mechanism for grievance adjustment. Experience has shown, however, that this phase of its operation is giving way more and more to constructive efforts to improve conditions in the business and to constructive cooperation along the lines of in-

creased efficiency, elimination of waste, and improved methods and quality and quantity of products. Along with this development has come a growth in morale and in sympathy and understanding between the employees and the officials. On the one hand the employees have gained a more intimate knowledge of their company and its objectives, and, on the other hand, the supervisors have come to realize more definitely than before their function as leaders rather than as drivers of men.

How the Representation Plan Works

The plan, in its essentials, provides for the election by ballot of representatives by and from among the employees. It has for its purpose four fundamentals: to give the employees a voice in the determination of the conditions under which they work, to promote cooperation between employees and management in matters of efficiency and economy, to furnish machinery for the prevention and adjustment of differences, and so far as possible to provide and foster continuous employment.

The plan is primarily a system which provides for election by shops or departments of representatives to meet and deal with the management for the discussion, regulation, and adjustment of matters having to do with all the conditions which may arise out of employment. Nominations and elections are held annually in each plant by secret ballot and are conducted by the employees themselves with only such assistance from the management as may be required.

The annual elections give an indication of the interest of the employees in this plan. The average percentage of eligible employees voting last year at the different plants was 93 per cent. Between 1918 and 1926 this percentage rose from 60 per cent to the present figure.

All action taken under the plan is joint action, and regular meetings are held with management representatives to discuss and pass upon questions that may arise.

Each employee representative is guaranteed full independence of action, and Bethlehem accepts the policy of arbitration. In other words, if no satisfactory adjustment of the case is reached, it may be left to arbitration. In no case, however, during the past nine years has it been necessary for any case to go to arbitration.

Annual Conferences with Employees

One of the striking developments of this whole system, and one which represents in our judgment a far-reaching step, is a series of annual conferences at the various plants of the corporation. One of the objects of these conferences has been to make an annual report to employees just as the corporation makes an annual report to its stockholders. At these meetings the employee representatives and management representatives sit down with Mr. Grace, the president of the company, and other executive officers for the consideration and discussion not only of employee matters, but of general business conditions and questions of company policy.

At this year's conferences, which were concluded a few months ago, I had the opportunity to join in these proceedings, and nothing could indicate to me more clearly than these meetings the fact that over the last few years real progress had been made in better industrial relations and that such cooperative activities as I have mentioned lead to constructive endeavor on the part of both management and employees and to material benefits to all concerned. At these conferences all subjects relating to employees and their welfare are discussed, the company executives report on the state of business and the outlook for the year as it may affect wages, working conditions, and the volume of product, and the employees present their point of view on their activities, on the steel business, and on plant operations. The officer in charge of industrial relations makes a report on the operation of all employee activities and the president himself discusses in a most intimate manner all phases of the corporation's business. Suggestions are freely made and openly debated. The result is that both management and men get an insight into what each other is thinking and an understanding of the other fellow's point of view, which cannot but be effective toward advancing the interest of all.

Safeguarding Life and Health

With high wages, steady employment, a financial interest in the business, and a means of contact and cooperation with the management through representatives of his own choosing, the wage-earner has perhaps secured the fulfilment of the most important and vital of his desires. There are other factors in industrial relations, however, which should by no means be overlooked. One of these concerns the safety of work and the provision made for the employee in the event of sickness or accident. For indeed both sickness and accident affect both wages and stability of employment.

Advances made in industrial safety work since the beginning of the century have been note-worthy and reflect credit alike upon management and men, for essentially it has been a cooperative movement. Much of this advancement has been due directly to the efforts of the larger industrial corporations. One of the things for which the world will long remember my friend, the late Judge Gary, was his continued and successful effort to improve safety conditions in the great industrial organization of which he was for so many years the head.

Bethlehem carries on a thoroughly organized and persistent campaign of accident prevention, first-aid instruction, and safety work. Permanent safety committees consisting of employees of various operating departments are charged with the duty of cooperating with their immediate supervisors in maintaining maximum safety of working conditions and they receive additional compensation for this service. One of the features of the first-aid work carried on under the guidance of competent doctors and nurses is a meet at which first-aid teams from various plants compete for substantial cash prizes. Since the beginning of this work more than 8000 of our employees have received first-aid instruction.

To assist the employee in case of sickness or death, the corporation has a relief plan which covers all employees. Its purpose is twofold: first, to provide disability benefits when their income is cut off because of sickness or accident not provided for by law, and second, to provide death benefits for the widows and dependents of employees. Funds for the payment of benefits are derived from contributions by the employees and from contributions by the corporation, the corporation assuming all administrative expenses.

The administration of this plan is typical of Bethlehem's policy of joint management of affairs directly affecting the employees. Questions of general policy, amendments, changes, and problems arising under the plan are determined by a board of trustees, half of whom are chosen by the employees and half by the management. The amount paid out yearly in benefits under this plan is nearly $1,000,000 and substantially all eligible employees throughout the corporation have become participants in it.

The company also maintains a well-organized medical service in each of its plants for the convenience of the employees, in the belief that sympathetic understanding on the part of the plant doctor is of equal importance to technical skill and that the medical department contributes a great deal toward providing steady work. As a result of all this effort we have reduced preventable accidents nearly sixty per cent in the last eleven years. Here is another example of a worthy contribution through cooperation toward a better day in industry with the result that there is a return to the employee in a physical and monetary saving, a return to the employer in lower costs, and a return to the community through a lessening of care for the maimed and disabled.

Provision for Support in Old Age

One of the most difficult problems not only in industry but in society as a whole is the maintenance of those who on account of old age are no longer able to support themselves. Many industrial companies have recognized an obligation in this matter and are seeking to provide for their aged employees through various types of pensions. To meet the economic needs of the aged worker, however, is not the only aim of a pension plan, it also provides a highly fitting basis for rewarding those faithful workers who have given their best years in the service of the company.

Bethlehem has a pension plan under which an employee who has reached the age of 65 and has rendered 25 years of service may

retire on a pension. There are today under this plan more than 1000 former Bethlehem employees, who, while not rendering active service to the company, are nevertheless as whole-heartedly interested as ever in its success. Ours is one of the newer pension plans, having been established only about five years ago, but already there is being paid out to pensioners nearly one-half million dollars a year.

Aid Toward Home Ownership

The present tendency of workers to invest in the purchase of what are regarded by some as luxuries is sometimes viewed with concern. On the whole I believe this tendency is but a step in the march of progress to a higher standard of life—a fulfilment of the new code of economics under which the luxuries of yesterday are becoming the necessities of today. Fundamentally the whole trend is based upon the better economic position of the worker helping to place these conveniences within the reach of all. Workers will acquire them in accordance with their economic ability and to suit their individual tastes. They will make their own decisions as to their individual needs and will not require any special assistance in doing so.

But in the desire for home-ownership which ranks high among the ambitions of the average workingman there is generally need for financial assistance. We believe that any assistance we can render our employees to help them realize this desirable ambition not only makes for better standards for them, but makes for a better community as well.

With this in mind Bethlehem for several years has had a plan under which the company helps its employees purchase homes on easy partial payments. The company has thus assisted employees to build or buy homes valued at several millions of dollars. Its aid in this housing program takes the form mainly of guaranteeing or purchasing the second mortgage on the property. The employee has the advantage of advice from the company's architectural, engineering, financial, and legal departments. He receives full title to the property, is under no obligation to the company so long as monthly payments on the mortgage are kept up, and his dependents are protected in the event of his death by a life-insurance policy at low rates during the terms of his indebtedness.

Measuring Benefits of Human Engineering

If I have seemed to give undue prominence to the human-engineering program of the Bethlehem Steel Corporation, it has been done merely in order to illustrate the general tendency of large-scale industry by concrete facts drawn from the organization with which naturally I am most familiar. Industry as a whole, and particularly that part of it to which the term "big business" has been applied, has made important progress along this line of bringing justice and cooperation between employers and employees.

Naturally, such an ambitious program has not been put through without expense, but we do not believe that this money is being used unwisely. We look upon it as being really an investment in national well-being.

I realize in what I have just said I am making a broad challenge. Engineers are practical men and some of you may be inclined to ask upon what I base my statement. The question is a fair one and it brings us squarely up to an inquiry as to the results of modern methods of labor management—the results of this human engineering to which we have been giving consideration.

Should we be content to accept the often expressed opinion that the benefits are intangible and simply rely upon our faith to justify our efforts? Will the average citizen merely applaud this new order as a desirable and worthy ambition for better conditions on the part of the definitely affiliated factors in industry, or will he whatever may be his calling, see beyond and realize that he is personally and profoundly affected?

Surely the engineer with his trained powers of analysis will be among the first to see the effect that these better relationships have had in advancing his own science, for he no longer finds an unenlightened resistance to the fruits of his genius. Indeed he has come to be regarded as an indispensable ally of employees as well as employers under this new order. And the benefits to employees in an improved economic status and to employers in increased good-will and productivity and steady operations are so readily recognized as to assure no backward step by either party.

Effects Upon the Stability of Business

But I must go beyond merely the benefits to employers and employees, important as these benefits are, if I am to justify my statement that the money spent upon human engineering is an investment in national well-being. Let us turn then briefly to some of the advantages that have accrued to the nation and to society at large. To start with one of the most obvious, I believe that the present stability of business is due largely to the better relations that have been brought about between employers and employees. It was not so many years ago that buyers of basic products were under a constant fear that their supplies of essential materials would be interrupted by strikes, lock-outs, or other overt expressions of industrial ill-will. They could not be sure of uninterrupted production. Therefore, it was quite natural that they bought beyond their needs and laid up surplus supplies which, in periods of business recession, were dumped on the markets and added to the demoralization and stagnation which formerly characterized several down-turns in the business cycle.

Today this situation has changed. It is only in a few industries, having special problems of their own, that there is at any time any serious danger of suspension. Buyers realize that they are no longer the victims of conflict and misunderstanding between management and labor in the producing industries. The confidence which they have, therefore, come to have in the ability of industry to supply continuously and uninterruptedly their requirements has revolutionized purchasing methods. Within the last few years, we have seen the purchasing public abandon its long-established practice of rushing in to place orders upon a basis that required full-capacity operation for a time and then withholding its patronage during a period of lessened production, unemployment, and economic distress.

This new method of buying has gone far to level the peaks and valleys which formerly characterized the business cycle. It would be too optimistic to hazard the prophecy that these peaks and valleys have been entirely eliminated. Even the most conservative of us, however, has evidence that their extent and severity have been greatly reduced. For this important advantage to business and to the public I give much credit to the better relationships that have been built up between management and employees.

Sustained Employment and Purchasing Power

Thus with greater stability of business has come more regularity of employment. A few minutes ago I spoke of steady employment as one of the reasonable desires of the laboring man. Now, however, we should consider it from the standpoint of business as a whole and of the nation. Until recent years, a large amount of unemployment was considered to be natural and inevitable, under certain circumstances It might be caused by the stagnation resulting from the down-turn of the business curve or it might be voluntary idleness due to strikes and misunderstanding within industry.

Gradually it was realized that under the interdependent linking of one industry with another, enforced unemployment in one line of business might be the result of voluntary idleness in a related enterprise.

However diverse may have been the causes of unemployment, there was no doubt as to its harmful result not only upon the workman and his family but upon business and society. Injury to business and society became constantly greater in the measure that industry came to depend upon the purchasing power of the wage earner for a large portion of its market. It is surely apparent to us today that no section of our population can remain idle over a protracted period—whether involuntarily as a result of business decline or other circumstance, or voluntarily as a result of industrial misunderstanding—without this situation affecting the whole

economic structure of our nation, for continuous employment and adequate buying power of the workers and a fair and steady return to investors are the foundation of our national well-being.

Human engineering, therefore, by improving the relationships between employers and employees, has lessened industrial conflict and misunderstanding, benefited workers and owners of industry, stabilized business through improving service to the purchasing public, and fostered the continuous employment at high wages upon which is built our present economic prosperity.

Opportunities for Further Service

Successful industrial management in the future is going to depend more and more upon management of men rather than upon the organization of machines and other problems which are ordinarily considered in the sphere of practical engineering. For the most part and generally speaking the engineering profession may be said to have solved or laid the groundwork of solution for the essential problems of the engineer in his technical field. Experience shows, however, that industry's most important task in his day of large-scale production is management of men on a human basis. Not only is this essential as affecting production, but it is becoming increasingly more important toward the maintenance and development of industry's own markets, for under present-day economic conditions in America, workers are more than producers, they constitute the very backbone of large-scale consumption.

Let us hope that the new viewpoints from which industry is being regarded will hasten the day when we shall cease to talk about a separation between labor and capital and begin to think of management in an all-inclusive sense—a new concept of management to include employees and employers striving hand in hand to bring success to the undertakings in which they are engaged.

The opportunities for further service in industrial statesmanship and engineering are indeed immeasurable. We have not attained perfection but we have made real progress and reaped substantial rewards. This knowledge should hearten us to strengthen, perpetuate, and extend the principles of this new order of human relations, so gloriously started, that we may have a nation of contented, self-respecting workers and citizens, and a sound, prosperous, progressive industry in the interests of society at large.

In my belief that we shall continue to meet this challenge lies my abiding faith in the future of American industry.

American Writing Staff Changes

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., May 29, 1928.—Russell S. Madden, who since 1923 has been assistant sales manager of the American Writing Paper Company, was last week promoted to be general sales manager, succeeding the late George J. Cadwell. Mr. Madden is a native of Detroit, Mich., and after graduating from the Central High School, of Washington, D. C., entered the paper business as a salesman for the Garnett & Allen Paper Company of St. Louis, Mo. In 1911 when the concern merged with the Graham Paper Company he became eastern representative for that company with headquarters in New York City. He came to this city as assistant general manager of sales about five years ago.

R. D. W. Ewing, manager of the New York office of the company, has been promoted to be assistant sales manager under Mr. Madden, and Charles H. Woods, of Fenwood, N. J., has been given charge of the New York office. He was formerly assistant to Mr. Ewing, joining the force about five years ago. Mr. Ewing has been with the American Writing Company since 1912 He was born in Enfield, Mass., and graduted from Yale University in 1910. He got his first paper manufacturing experience in local mills and went to the New York office as a paper salesman, in 1920, being appointed office manager.

Dr. Merchant Optimistic Over Business Outlook

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 28, 1928.—Dr. E. O. Merchant, widely-known statistician, who for a number of years was identified with the George H. Mead Company in this city, but who was transferred to New York last Fall, when the Canadian Newsprint Company was merged with the Dayton concern, recently renewed old acquaintances in this city. He called on friends in the paper trade and others with whom he had business dealings when formerly in Dayton.

Dr. Merchant expressed the opinion, when asked concerning business prospects, that the outlook was good and he expected substantial improvement as time goes on. "There has been very encouraging improvement in business since the first of the year," he stated, "and the outlook is bright for its continuation, provided that brokers' loans are liquidated to a sound basis during the next few months. If this takes place there is a possibility of a very strong expansion of business activities during the Fall months.

"Nothing has developed in the political situation to cause business any concern. No radical candidates or issues have appeared in the picture. It is too early yet to forecast what the agricultural situation will be, but if the new crops are satisfactory we will have a continuation of the improvement in farm conditions which has been an important factor in the recovery of business during recent months."

Abrasive Companies Merge

[FROM OUR REGULAR CORRESPONDENT]

GREEN ISLAND, N. Y., May 21, 1928.—The merger of the Manning Abrasive Company and Herman Behr & Co., of Brooklyn, is virtually completed and transfer of the manufacturing operations of the Brooklyn concern to the Green Island and Watervliet plants of the Manning company was forecast by John A. Manning, head of the John A. Manning Paper Company and the Manning Abrasive Company. Completion of negotiations for the consolidation of the two concerns brings together two important mills in the abrasive paper industry. The firm will be known in the future as the Behr-Manning Corporation.

Officials of the new corporation have not been chosen as yet but it is understood that John A. Manning will be named president and Herman Behr, head of the Brooklyn company will be elected chairman of the board of directors. Present directors of the two companies will comprise the board of the new corporation. No changes in the sales policies are contemplated.

International to Form Holding Company

Plans for the formation of a new holding company to be known as the International Power and Paper Company are nearing completion, and it is expected that common stockholders of International Paper Company will be permitted to exchange their stock on a share for share basis. The new organization is being incorporated in Massachusetts as a voluntary holding company.

The new company will own stock of the International Paper Company, the New England Power Association, of which International Paper Company is now said to own about 50 per cent, and other utilities in the United States and Canada controlled by International Paper.

Financing of the new holding company is expected to be made through the medium of common stock, which will be offered to shareholders in all the companies at a price below the market. Proceeds from the sale of this stock in the holding company will enable the International Paper Company to reduce its floating debt, coincident with an expansion program.

COST SECTION

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MAY 26, 1928

SUMMARY

Cigarette paper	40 cs.
Wall paper	16 bls., 5 cs.
Paper hangings	22 cs., 71 bls.
News print	815 rolls, 211 bls.
Printing paper	188 rolls, 171 cs.
Wrapping paper	10 bls., 28 cs.
Packing paper	13 cs.
Trunk paper	2 cs.
Parchment paper	7 bls., 22 cs.
Pergamyn paper	42 cs.
Parchment paper and colored paper	12 cs.
Colored paper	81 cs.
Tissue paper	31 cs.
Decalcomania paper	61 cs.
Stencil paper and ink	81 cs.
Transfer paper	12 cs.
Filter paper	30 bls., 11 cs.
Drawing paper	21 cs.
Copying paper	35 cs.
Surface coated paper	134 cs.
Baryta coated paper	148 cs.
Note paper	2 cs.
Writing paper	4 cs.
Straw paper	2 rolls
Straw board	1,028 rolls
Miscellaneous paper	167 rolls, 312 bls., 111 cs.

CIGARETTE PAPER

Standard Products Corp., Suffren, Havre, 40 cs.

WALL PAPER

Alfred Peats Co., A. Ballin, Hamburg, 1 cs.
R. F. Downing & Co., A. Ballin, Hamburg, 1 bls.
Baldwin Universal Co., Berlin, Bremen, 2 cs.
Globe Shipping Co., Reliance, Hamburg, 1 cs., 15 bls.
F. Henjes, Jr., Homeric, Southampton, 1 cs.
A. C. Dodman, Jr., Inc., Aquitania, Southampton, 1 bls.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Baltic, Liverpool, 10 bls.
W. H. S. Lloyd & Co., Carmania, Liverpool, 61 bls., 14 cs.
A. L. Diament & Co., France, Havre, 6 cs.
Whiting & Patterson Co., Inc., Homeric, Southampton, 2 cs.

NEWS PRINT

A. S. Zabriskie, Berlin, Bremen, 100 bls.
Parsons & Whittemore, Inc., Berlin, Bremen, 388 rolls.
Canfield Paper Co., Berlin, Bremen, 111 bls.
Hudson Trading Co., Oscar II, Oslo, 10 rolls.
Perkins Goodwin & Co., Reliance, Hamburg, 417 rolls.

PRINTING PAPER

E. Dietzgen & Co., Inc., Westphalia, Hamburg, 30 cs.
E. Dietzgen & Co., Inc., N. Amsterdam, Rotterdam, 73 cs.
Tamm & Co., N. Amsterdam, Rotterdam, 2 cs.
Judson Freight F'd'g Co., N. Amsterdam, Rotterdam, 20 cs.
P. C. Zuhlke, Lapland, Antwerp, 15 cs.
Martin & Bechtold, Yorck, Bremen, 13 cs.
Perkins Goodwin & Co., Reliance, Hamburg, 153 rolls.
Keuffel & Esser Co., Reliance, Hamburg, 35 rolls.
C. Steiner, Rotterdam, Rotterdam, 4 cs.
Judson Freight F'd'g Co., Rotterdam, Rotterdam, 23 cs.
E. Dietzgen & Co., Inc., Rotterdam, Rotterdam, 11 cs.
Quality Art Novelty Co., Aquitania, Southampton, 3 cs.

WAPPING PAPER

E. Dietzgen & Co., Inc., N. Amsterdam, Rotterdam, 23 cs.
Bendix Paper Co., A. Ballin, Hamburg, 5 cs.
Birn & Wachenheim, Reliance, Hamburg, 10 bls.

PACKING PAPER

International F'd'g Co., A. Ballin, Hamburg, 13 cs.

TRUNK PAPER

P. H. Petry & Co., A. Ballin, Hamburg, 2 cs.

PARCHMENT PAPER

Walker Goulard Plehn Co., A. Ballin, Hamburg, 7 bls.
Sebastian Bienfang, Rotterdam, Rotterdam, 22 cs.

PERGAMYN PAPER

Steiner Paper Co., A. Ballin, Hamburg, 16 cs.
Steiner Paper Co., Reliance, Hamburg, 8 cs.
E. V. Hadley, Reliance, Hamburg, 18 cs.

PARCHMENT PAPER AND COLORED PAPER

S. Gilbert, Berlin, Bremen, 12 cs.

COLORED PAPER

E. Dietzgen & Co., Inc., Westphalia, Hamburg, 48 cs.
P. H. Petry & Co., A. Ballin, Hamburg, 9 cs.
Baldwin Universal Co., Berlin, Bremen, 8 cs.
Tamm & Co., Reliance, Hamburg, 14 cs.
S. Gilbert, America, Bremen, 2 cs.

TISSUE PAPER

Old Master Paper & Pulp Co., Westphalia, Hamburg, 9 cs.
Lightfoot Schults Co., Maybashi Maru, Kobe, 3 cs.
G. W. Sheldon & Co., Minnesota, London, 2 cs.
Wilkinson Bros. & Co., Inc., Duilio, Genoa, 17 cs.

DECALCOMANIA PAPER

C. W. Sellers, A. Ballin, Hamburg, 2 cs.
C. W. Sellers, Berlin, Bremen, 20 cs.
L. A. Consmiller, Berlin, Bremen, 10 cs.
B. F. Drakenfeld & Co., Scythia, Liverpool, 14 cs. (duplex) 5 cs. (simplex).
C. W. Sellers, America, Bremen, 8 cs.
Phoenix Shipping Co., America, Bremen, 2 cs.

STENCIL PAPER AND INK

Arlac Dry Stencil Co., A. Ballin, Hamburg, 81 cs.

TRANSFER PAPER

Atlantic F'd'g Co., A. Ballin, Hamburg, 12 cs.

FILTER PAPER

H. Reeve Angle & Co., Inc., Carmania, Liverpool, 8 cs.
Taiyo Trading Co., Maybashi Maru, Nagoya, 3 cs.
Blackman & Blackman, La Bourdonnais, Bordeaux, 10 bls.
A. Giese & Son, Reliance, Hamburg, 20 bls.

DRAWING PAPER

H. Reeve Angel & &Co., Inc., Carmania; Liverpool, 3 cs.
Favor Ruhl & Co., Minnesota, London, 7 cs.
Keuffel & Esser Co., Reliance, Hamburg, 11 cs.

COPYING PAPER

Whitfield Paper Works, Maybashi Maru, Kobe, 35 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., Westphalia, Hamburg, 1 cs.
Globe Shipping Co., A. Ballin, Hamburg, 46 cs.
P. C. Zuhlke, Lapland, Antwerp, 82 cs.
Gevaert Co. of America, Lapland, Antwerp, 5 cs.

BARYTA COATED PAPER

Globe Shipping Co., Berlin, Bremen, 52 cs.
J. H. Schroeder Banking Corp., Berlin, Bremen, 96 cs.

NOTE PAPER

H. Reeve Angel & Co., Inc., Carmania, Liverpool, 2 cs.

WRITING PAPER

Coenca Morrison Co., France, Havre, 4 cs.

STRAW PAPER

Star Corrugated Box Co., Reliance, Hamburg, 2 rolls.

STRAW BOARD

N. Y. Corrugated Case Co., N. Amsterdam, Rotterdam, 160 rolls.
C. H. Powell, N. Amsterdam, Rotterdam, 162 rolls.
R. Wilson Paper Corp., N. Amsterdam, Rotterdam, 126 rolls.
A. Vuyk, N. Amsterdam, Rotterdam, 206 rolls.
C. H. Powell, Rotterdam, Rotterdam, 158 rolls.
A. Vuyk, Rotterdam, Rotterdam, 216 rolls.

MISCELLANEOUS PAPER

Globe Shipping Co., N. Amsterdam, Rotterdam, 12 cs.
F. C. Strype, N. Amsterdam, Rotterdam, 15 cs.
J. R. Livermore Co., Conte Grande, Genoa, 5 cs.
Perkins Goodwin & Co., Conte Grande, Genoa, 8 cs.
Yabuki & Co., Maybashi Maru, Kobe, 4 cs.
Steiner Paper Corp., Maybashi Maru, Kobe, 1 cs.
Judson Freight F'd'g Co., Lapland, Antwerp, 28 cs.
Cheramy, Inc., France, Havre, 1 cs.
Standard Products Corp., France, Havre, 2 cs.
The Borregaard Co., Inc., Argosy, Gothenburg, 312 bls.
Arkell Safety Bag Co., Argosy, Gothenburg, 92 rolls.
Crepe Kraft Co., Argosy, Gothenburg, 75 rolls.
Merchants Despatch Transport Co., Rotterdam, Rotterdam, 16 cs.
Japan Paper Co., Duilio, Genoa, 19 cs.

RAGS, BAGGING, ETC.

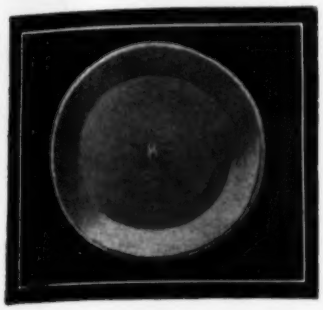
Chase National Bank, Westphalia, Hamburg, 944 bls. rags.
Central Mercantile Bank, Westphalia, Hamburg, 246 bls. rags.
E. Mayer, Westphalia, Hamburg, 23 bls. rags.
Fidelity Trust Co., Saugus, Barcelona, 88 bls. cottons.
Castle & Overton, Inc., Saugus, Barcelona, 71 bls. bagging.
C. R. Spence & Co., Inc., N. Y. City, Bristol, 196 bls. rags.
Brown Bros. & Co., N. Y. City, Bristol, 141 bls. waste paper.
Atlantic National Bank, N. Amsterdam, Rotterdam, 92 bls. cotton waste.
Castle & Overton, Inc., N. Amsterdam, Rotterdam, 98 bls. rags.
American Exchange Irving Trust Co., N. Amsterdam, Rotterdam, 177 bls. rags.
E. Mayer, A. Ballin, Hamburg, 62 bls. rags.
Overton & Co., A. Ballin, Hamburg, 61 bls. bagging.
A. W. Fenton, Inc., A. Ballin, Hamburg, 48 bls. rags.
National City Bank, Baltic, Liverpool, 63 bls. rags.
Castle & Overton, Inc., Baltic, Liverpool, 60 bls. bagging.
Banco Com'l Italiana Trust Co., Carmania, Liverpool, 5 bls. rags.
Brown Bros. & Co., Transylvania, Glasgow, 9 bls. rags.
Castle & Overton, Inc., Transylvania, Glasgow, 49 bls. bagging.
T. D. Downing & Co., Transylvania, Glasgow, 75 bls. bagging.
Castle & Overton, Inc., Guido, Manchester, 110 bls. bagging.
R. F. Downing & Co., Guido, Manchester, 60 bls. rags.
J. Cohen Son & Co., Guido, Manchester, 13 bls. rags.
Banco Com'l Italiana Trust Co., Corson, Genoa, 47 bls. bagging.
V. Galaup, Corson, Leghorn, 121 bls. rags.
Royal Man'f'g Co., Boden, Antwerp, 193 bls. cotton waste.
E. J. Keller Co., Inc., Boden, ——, 157 bls. linen threads; 362 bls. flax waste.
Interstate Trust Co., Tagliamento, Leghorn, 72 bls. rags.
Interstate Trust Co., Tagliamento, Naples, 130 bls. rags.
Banco Com'l Trust Co., Tagliamento, Naples, 179 bls. rags.
American Over-Ocean Corp., Maybashi Maru, Kobe, 50 bls. cotton waste.
Equitable Trust Co., Scythia, Liverpool, 22 bls. new cuttings.
Brown Bros. & Co., Minnesota, London, 27 bls. rags.
Amsinck Sonne & Co., Inc., Yorck, Bremen, 38 bls. rags.
Kaplan & Co., Yorck, Bremen, 19 bls. rags.
A. W. Fenton, Inc., Yorck, Bremen, 252 bls. rags.
Goldman Sachs & Co., Yorck, Bremen, 50 bls. rags.
Castle & Overton, Inc., A. Lopez, Barcelona, 442 bls. rags.
Overton & Co., Tigre, Antwerp, 166 bls. bagging.
Interstate Trust Co., Tigre, Antwerp, 54 bls. rags.
Atlantic National Bank, Tigre, Antwerp, 53 bls. cotton waste.
Castle & Overton, Inc., Tigre, Antwerp, 40 bls. bagging; 185 bls. rags.
Arrowhead Mills, Tigre, Antwerp, 118 bls. rags.
E. J. Keller Co., Inc., Tigre, ——, 403 bls. flax waste.
Castle & Overton, Inc., Kearney, Manchester, 74 bls. bagging.
Interstate Trust Co., Maria, Bari, 182 bls. rags.
Banco Com'l Italiana Trust Co., Maria, Bari, 95 bls. rags.
S. Birkenstein & Son, Zinal, Barcelona, 71 bls. rags.
Chemical National Bank, Zinal, Barcelona, 236 bls. rags.
National City Bank, Zinal, Barcelona, 356 bls. rags.
N. Y. Trust Co., Zinal, Valencia, 73 bls. rags.
Castle & Overton, Inc., La Bourdonnais, Bordeaux, 81 bls. bagging.
Overton & Co., Rotterdam, Rotterdam, 159 bls. bagging.
Overton & Co., America, Bremen, 103 bls. bagging.
Myers Lipman Co., Sarcoxie, Havre, 3 bls. rags.
W. Steck & Co., Inc., Sarcoxie, Havre, 153 bls. jute waste.
Salomon Bros. & Co., Sarcoxie, Havre, 60 bls. rags.
V. Galaup, Sarcoxie, Havre, 440 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, ——, 70 bls. rags.

OLD ROPE

Brown Bros. & Co., N. Y. City, Bristol, 178 coils.
Brown Bros & Co., Oscar II, Oslo, 41 bls.
Brown Bros. & Co., Rotterdam, Rotterdam, 124 coils.
W. Steck & Co., Inc., N. Amsterdam, Rotterdam,

(Continued on page 62)

This is the *Plate*



on which 90% of the Jobbers are building their business

Bakers prefer it, because it is moulded from pulp in exactly the same shape as a tin plate, absorbent and keeps their pies in perfect shape.

Write us for prices.

PAPRUS

PIE PLATES

KEYES FIBRE COMPANY, INC.

John M. Hart Company, Manager of Sales, Graybar Bldg., N. Y.

INTERNATIONAL ACCEPTANCE BANK
INCORPORATED

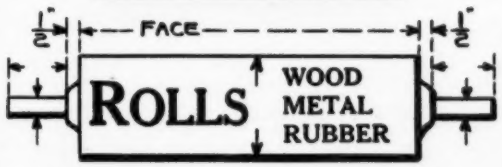
International
Banking Transactions

Commercial Letters of Credit
Collections Foreign Exchange
Investment Securities
Bullion and Currency

PAUL M. WARBURG, *Chairman* F. ABBOT GOODHUE, *President*

52 Cedar Street, New York

RODNEY HUNT



Adopted as standard by prominent mills

Costly Felts

are never caught or damaged on the* SMOOTH ENDS *of the

Rodney Hunt "SHAF-TITE" Rolls

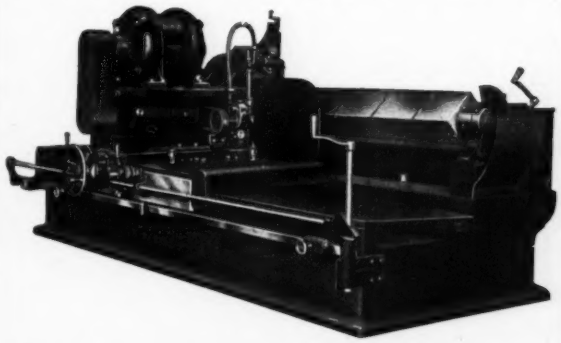
RODNEY HUNT

Quick Shipments in Emergencies

If you need a Roll for Any Machine call or write

RODNEY HUNT MACHINE CO.
63 Maple St., ORANGE, MASS.

Wide Use of New Type Grinders



Within a comparatively short time, safely indicates outstanding value in paper knife grinding service. The dependability of the traveling wheel grinders for satisfying accuracy removes all fear of a poor job. When one of these grinders is installed all knife troubles are over and knife upkeep is reduced to a minimum, both of expense and labor. With minimum care in the most perfunctory routine service with one of these grinders, the knives are always in perfect condition.

COVELL-HANCHETT CO.
Big Rapids, Michigan, U. S. A.
514 First Ave., South,
Seattle, Wash.

Imports of Paper and Paper Stock

(*Continued from page 60*)

49 coils.
W. Schall & Co., A. Ballin, Hamburg, 41 bls.

CASEIN

Equitable Trust Co., Westphalia, Hamburg, 217 bags, 20,040 kilos.
Kalbfleisch Corp., Southern Cross, B. Aires, 1,233 bags.
Karolith Corp., Suffren, Havre, 67 bags.
Champion Coated Paper Co., West Calaumb, B. Aires, 950 bags, 47,350 kilos.

CHINA CLAY

C. T. Wilson & Co., Inc., N. Y. City, Bristol, 25 casks.
Atlantic National Bank, Muncaster Castle, Fowey, 1,441 tons, 14 cwt. (bulk).

WOOD PULP

Sonora Timber Co., Isa, Sonora, 1,001 cords.
M. Gottesman & Co., Inc., Maria, Sebenico, 8,000 bls.
M. Gottesman & Co., Inc., Ambridge, Rotterdam, 1,000 bls., 100 tons.
E. J. Keller Co., Inc., A. Ballin, ——, 333 bls.
Castle & Overton, Inc., Westphalia, Hamburg, 174 bls.

WOOD FLOUR

State Chemical Co., Ambridge, Rotterdam, 564 bags, 29,850 kilos
The Burnet Co., Ambridge, Rotterdam, 400 bags, 20,000 kilos.
State Chemical Co., Rotterdam, Rotterdam, 420 bags.

WOOD PULP WADDING

Birn & Wachenheim, Rotterdam, Rotterdam, 50 bls., 7 cs.

BALTIMORE IMPORTS

WEEK ENDING MAY 26, 1928

Congoleum Nairn Co., Corson, Marseilles, 208 bls. rags.
M. Gottesman & Co., Inc., Argosy, Kotka, 600 bls. wood pulp, 99 tons.
Lagerloef Trading Co., Argosy, Kotka, 169 bls. wood pulp boards, 24 tons.
The Borregaard Co., Inc., Argosy, Gothenburg, 1,125 bls. wood pulp, 228 tons.
J. Andersen & Co., Argosy, Sarpsborg, 2,250 bls. sulphite, 375 tons.
Bulkley Dunton & Co., Ambridge, ——, 150 bls. wood pulp, 30 tons.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 26, 1928

Fidelity Trust Co., Saugus, Barcelona, 252 bls. cottons, 23 bls. cuttings.
Brown Bros. & Co., N. Y. City, Bristol, 202 bls. rags.
Brown Bros. & Co., Corson, Genoa, 94 bls. cotton waste.
The Borregaard Co., Inc., Argosy, Sarpsborg, 1,800 bls. wood pulp, 300 tons.
Bank of New York & Trust Co., A. Lopez, Barcelona, 442 bls. rags.
Stephano Bros., Sarcoxie, Havre, 26 cs. cigarette paper.
Strawbridge & Clothier, Sarcoxie, Havre, 3 cs. writing paper.
De Dio Bros., Sarcoxie, Havre, 8 bls. rags.
J. M. Jaffe, Sarcoxie, Havre, 58 bls. rags.
Castle & Overton, Inc., Sarcoxie, Havre, 311 bls. rags.
E. A. Stone, Sarcoxie, Havre, 393 bls. rags.
V. Galaup, Sarcoxie, Havre, 462 bls. rags.
American Exchange Irving Trust Co., Sarcoxie, Havre, 30 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, ——, 94 bls. rags.
G. W. Millar & Co., Inc., Sarcoxie, Dunkirk, 112 bls. rags.
V. Galaup, Sarcoxie, Dunkirk, 87 bls. rags.
Robert Blank, Sarcoxie, Dunkirk, 145 bls. rags.
Corn Exchange Bank, Sarcoxie, Dunkirk, 28 bls. rags.
Castle & Overton, Inc., Sarcoxie, Dunkirk, 45 bls. rags.
Castle & Overton, Inc., Saco, Antwerp, 258 bls. rags.
A. Hurst & Co., Saco, Antwerp, 47 bls. rags.
E. Butterworth & Co., Inc., Saco, Antwerp, 65 bls. rags; 114 bls. bagging.
D. I. Murphy, Saco, Antwerp, 286 bls. rags.
Fidelity Trust Co., Saco, Antwerp, 90 bls. rags.
Castle & Overton, Inc., Maryland, France, 324 bls. rags.
Castle & Overton, Luxpalile, Italy, 39 bls. rags.
Castle & Overton, Inc., Rexmore, Scotland, 169 bls. rags; 50 bls. waste paper.
Castle & Overton, Inc., London Exchange, London, 54 bls. waste paper; 122 coils old rope.
Castle & Overton, Gerwin, Germany, 159 bls. rags.
E. J. Keller Co., Inc., Rigel, ——, 99 bls. rags.
E. J. Keller Co., Inc., Anaconda, ——, 180 bls. rags.
E. J. Keller Co., Inc., West Harcuvar, ——, 175 bls. rags.

NEW ORLEANS IMPORTS

WEEK ENDING MAY 26, 1928

E. J. Keller Co., Inc., Cranford, ——, 290 bls. bagging.
E. J. Keller Co., Inc., Coldbrook, ——, 292 bls. rags.

NORFOLK IMPORTS

WEEK ENDING MAY 26, 1928

Bank of New York, Ambridge, Rotterdam, 100 bls. bagging.
Dickman Wright & Pugh, Ambridge, Rotterdam, 344 bls. bagging.
E. J. Keller Co., Inc., Ambridge, Rotterdam, 58 bls. rags.

CHARLESTON IMPORTS

WEEK ENDING MAY 26, 1928

Castle & Overton. Inc., Coldwater, England, 70 bls. paper stock.

BOSTON IMPORTS

WEEK ENDING MAY 26, 1928

J. B. Moors & Co., Muncaster Castle, Fowey, 509 tons 1 cwt. china clay;
Papermakers Import Co., Muncaster Castle, Fowey, 850 tons 2 cwt. china clay; 40 casks china clay, 20 tons.
L. A. Salomon & Bros., Muncaster Castle, Fowey, 27 tons 7 cwt. china clay.
Atlantic National Bank, Muncaster Castle, Fowey, 1,471 tons 10 cwt. china clay; 50 casks china clay, 25 tons.
J. Richardson, Muncaster Castle, Fowey, 705 tons 5 cwt. china clay; 100 casks china clay, 50 tons.
Stauntons Ltd., Muncaster Castle, Fowey, 100 tons 15 cwt. china clay.
J. Andersen & Co., Maria, Trieste, 1,500 bls. wood pulp.
J. Andersen & Co., Argosy, Sarpsborg, 1,350 bls. sulphite, 659 tons.
The Borregaard Co., Inc., Argosy, Gothenburg, 1,375 bls. dry pulp, 279 tons.
Atterbury Bros., Inc., West Calaumb, B. Aires, 1,918 bags casein, 115,080 kilos.
1st National Bank of Boston, West Calaumb, B. Aires, 2,501 bags casein, 150,060 kilos.

Controlling Condensation Booklet

"Controlling Condensation in the Pulp and Paper Industries" is the title of a very attractive booklet which is issued by the Johns-Manville Corporation of New York, profusely illustrated with typical installations and treats in very concise and complete form the subject of "Condensation" showing the savings which have been accomplished by giving attention to the subject of moisture laden air and the disposal of same.

F. W. Pomeroy Joins Groveton Organization

F. W. Pomeroy, who for several years has acted in an advisory capacity for leading high grade mills, has been engaged as general superintendent of the Groveton Paper Company, at Groveton, New Hampshire. Mr. Pomeroy brings to his new connection an experience of wide character gained both as a consultant and general superintendent of some of the leading mills making high grade products.

Grinder Exhaust Systems

The J. O. Ross Engineering Corporation, of 30 E. 42nd St., New York, has just issued a new bulletin covering the subject of "Grinder Exhaust Systems" as particularly applied to the pulp and paper industries. This bulletin calls attention to the many improvements which have been made in the heating and ventilating systems in the pulp and paper industries in the past few years. It refers specially to the progress which has been made in the adoption of systems in the grinder rolls of news print mills.

Finland's Pulp and Paper Exports Gain

Exports of wood pulp and paper from Finland during the first quarter of this year were valued at approximately $10,937,000 as against $9,929,000 during the corresponding months of last year. Shipments comprised 25,703 metric tons of ground wood as against 16,488 tons last year, 104,412 tons of chemical pulp as against 81,925 tons last year, 44,633 tons of news print, 11,349 tons of boards, 9,937 tons of wrapping paper, and 1,070 tons of writing paper. With the exception of exports of writing paper, which show a decline of 530 tons, shipments of all these classes exceeded those of the first quarter of last year.

Paper Production Increases

Production of paper and pulp increased slightly during the past quarter, and it seems to be the concensus of opinion that this level will be maintained during the succeeding three months, according to reports to the Department of Commerce. Prices on the whole seemed to be firm, and exports during the period in question were unprecedently high, paper having increased 18 per cent, chemical pulp between 25 and 30 per cent.

E. W. Backus Elected Railroad Director

E. W. Backus, Minneapolis, Minn., president of the Backus-Brooks Company, and the Minnesota-Ontario Paper Company, has been elected a director of the Pittsburgh and West Virginia Railway Company to succeed the late A. W. Thomson.

Low pressure steam for heating and drying is readily obtained from live steam lines by using

REDUCING VALVES

Auld (diaphragm) and Schutte (relay-controlled) types

These valves maintain uniform reduced pressure regardless of fluctuations in initial pressure or flow.

SEND FOR BULLETIN 8-R

SCHUTTE & KOERTING Co. 1255 N. 12th STREET PHILADELPHIA, PA.

STANDARD SELF-ALIGNING

3 Important Features
Rustproof Plates
Self Aligned Plates
Self Aligned Rivets
Write for Samples
The BOURNE-FULLER CO. UPSON WORKS UNIONVILLE, CONN.

BELT FASTENERS

A Reliable Source of Supply for Pulp and Paper Mill Machinery and Equipment:

BARKING DRUMS
INCINERATORS
EVAPORATORS
CHIP SCREENS
CHIPPERS
PULPWOOD SLASHERS
CUT-OFF MACHINES
HEAVY TRANSMISSION
CONVEYORS
COLLAPSIBLE WINDER SHAFTS

Acid Resisting Bronze

Special Machinery Built to Order

D. J. MURRAY MFG. CO.

WAUSAU, WIS.

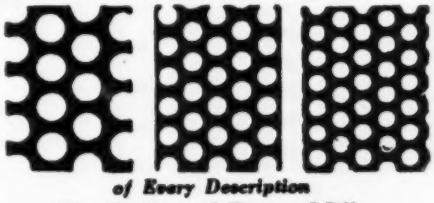
C. K. WILLIAMS & CO. ANCHOR BRAND DRY COLORS AND FILLERS EASTON, PA. U.S.A.

Red, Brown, Yellow } Oxides

Talc
Yellow Ochres,
Umbers, Agalite

C. K. Williams & Company
EASTON, PA.

PERFORATED METALS



of Every Description

For Pulp and Paper Mills

THE HARRINGTON & KING PERFORATING CO.

5652 Fillmore St., Chicago, Ill.

NEW YORK OFFICE: 114 Liberty St.

TYPE "B" IRON EXTRACTOR

It consists of special magnetic surfaces of great power over which the paper stuff is made to pass. As a result, all the iron and many other foreign substances are completely extracted. Hundreds of these devices are in use daily and no one of them has failed to give complete satisfaction. Write us for Bulletins and full data.

THE ROLAND T. OAKES CO., Holyoke, Mass.

Electrical Specialists. *Established 1885*

for **PAPER MAKING**

Paper Mill Stocks and Bonds

Quoted by Messrs. McGay & Co., 25 Broad street, New York City, to whom all inquiry for quotations on these or any other Securities is referred.

BONDS	BID	ASKED
Abitibi Fibre Company 6s, 1947	100⅜	102
Abitibi Power & Paper 6s, 1940	104½	106½
Abitibi Power & Paper 6s, serially to 1934	100½	102½
A. P. W. Paper & Power 7s, 1945	101½	103½
American Writing Paper 6s, 1947	89	90
Bastrop Pulp & Paper 6½s, 1940	103½	105½
Beaver Board 8s, 1933	102	103
Beaver Products Corp. 7½s, 1942	109	111
Bedford Pulp & Paper 6½s, 1942	98	100
Belgo-Canadian Paper 6s, 1943	103	105
British-Columbia Pulp & Paper 6s, 1950	90	92
Brompton Paper Serial A 6s, 1946	101½	103½
Brompton Pulp & Paper 6s, 1935	100	...
Brown Paper Mills Serial 6s, 1941	99	101
Brown Company 5½s, 1946	102	104
Bryant Paper 6s, 1942	100½	102
Canadian Paper Board 7s, 1937	97½	99½
Cape Breton Pulp & Paper 6s, 1932	103	...
Celotex Company 6s, 1929	97	99
Celotex Company 6½s, 1939	100	102
Celotex Company of Chicago Debenture 6s, 1936	97	100
Central Paper Company Serial 6½s, 1942	86	89
Central Paper 7s, 1934	85	90
Champion Coated Paper Serial 6½s, 1934	100	...
Champion Coated Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 6s, 1941	100	102
Champion Fibre Notes 8s, 1930	100	...
Champion Paper Corp. 6s, 1945	95	98
Chicago Mill & Lumber Serial 5½s, 1936	98	100
Container Corp. of America Debenture 6s, 1936, ex-warrants	96	99
Continental Paper Products 6½s, 1943	92	95
Cornell Wood Products 7½s, 1937	103	...
Crown Willamette 6s, 1951	102	103½
Dells Paper & Pulp Serial 6s, 1938	95	98
Dixon Board Mills Serial 6s, 1942	60	...
Donnacona Paper 5½s, 1948	97½	99
Eastern Manufacturing Co. 7s, 1938	98	100
Escanaba Paper Serial 6s, 1939	98	100
Escanaba Paper 6½s, 1935	96	99
Filer Fibre Serial 7s, 1935	90	95
Fort Orange Paper 7s, 1942	101½	103
Fort William Paper 6s, 1946	101	104
Fox River Paper 7s, 1931	100	...
Fraser Company 6s, 1950	103	105
Hammermill Paper Serial 6s, 1939	101	...
Hawley Pulp & Lumber 6s, 1946	96	...
Hawthorne Paper Company 6s, 1937	80	...
Hoberg Paper & Fibre 7s, 1937	95	97
Industrial Fibre Corp. Debenture 8s, 1933	100	...
International Paper 6s, 1955	104¼	105
International Paper 5s, 1947	100	101½
Itasca Paper & Prairie River Paper Serial 5½s, 1938	99½	...
Itasca Paper & Prairie River Paper Serial 6s, 1938	99	...
Jessup & Moore First 6s, 1945	88	92
Kalamazoo Vegetable Parchment 6s, 1938	99	101
Lake Superior Pulp & Paper 6s, 1941	105	108
Manitoba Paper 6½s, 1936	102½	104½
Marathon Paper Mills Serial 5½s, 1942	99½	101
Marathon Paper Mills Serial 6s, 1937	100	...
Marinette & Menominee 7½s, 1936	103	105
Mead Pulp & Paper 5% Notes Serially, 1937	95	100
Mead Fibre 7s, 1937	98	101
Menosha Printing & Carton 6½s, 1939	99½	...
Midwest Box Company 6½s, 1940	100	...
Minnesota Ontario Paper Serial 6s, 1945	99	101
Murray Bay Paper 6½s, 1947	103	105
Munissing Paper Serial 6s, 1936	98	...
Nekoosa Edwards Paper 6s, 1942	96	...
Ontario Pulp & Paper 6s, 1931	108½	110½
Orono Pulp & Paper 6s, 1943	99	...
Orono Pulp & Paper 5s, 1941	96½	...
Oswegatchie Paper Serial 6s, 1932	95	100
Oswego Falls Corp. 6s, 1941	99	102
Oxford Paper 6s, 1947	102½	...
Oxford Paper 6s, 1947	102½	...
Paepcke Paper Mills 7s, 1930	99	...
Parker-Young Company 6½s, 1944	98	100
Paterson Parchment Paper 6s, 1938	101½	103
Penobscot Chemical Fibre 6s, 1942	102	105
Port Alfred Pulp & Paper 6½s, 1943	105	107
Port Alfred Pulp & Paper 5½s, 1947	98½	100
Price Brothers 6s, 1943	105	...
Provincial Paper 5½s, 1947	98½	...
Provincial Paper 6s, 1940	100	...
Queen City Paper 7s, 1933	97	100
Richardson & Company 6s, 1938	100	...
River Raisin Paper 6s, 1936	99	101
Riordan Pulp & Paper 6s, 1942	102	104
Rolland Paper 6s, 1937	99	101
St. Anne Paper 6½s, 1946	102	104
St. Croix Paper Serial 5s, 1937	99	...
St. Helen Pulp & Paper 6½s, 1931	99	102
St. Lawrence Paper Mills 6s, 1946	101½	103½
St. Lawrence Paper Mills 6½s, 1936	100½	102½
St. Maurice Valley Corp. 6s, 1945	102	104
St. Maurice Valley Corp. 5½s, 1947	98½	100½
St. Regis Paper of Canada 6s, 1931	100½	102
St. Regis Paper of Canada 6½s, 1934	100	101
Smith (Howard) Paper Mills 6s, 1934	101	...
Smith (Howard) Paper Mills 7s, 1941	104	106
Southern Paper Company 6½s, 1937	100	...
Spanish River Pulp & Paper 6s, 1931	108	110
Stevens-Thompson Paper 6s, 1942	94	96
Taggart Brothers 6s, 1944	95	100
Tait Paper &Color Industries 6s, 1935	88	92
Ticonderoga Pulp & Paper 5s, 1930	94	...
Ticonderoga Pulp & Paper 6s, 1940	100	102
Tomahawk Kraft Paper 6s, 1938	98	...
Tomahawk Pulp Paper 7s, 1932	99	...
Tonawanda Paper 5½s, Series 1941	99	102
U. S. Envelopes 5s, Series 1934	99	...
Union Bag & Paper Power 6s, 1932	98	100
United Wall Paper Factories 6s, 1947	96	99
Warren (S. D.) Company 6s, 1945	103	105
Watab Paper 6½s, 1942	102½	104½
Waterway Paper Products 6s, 1931	100½	101½
Wayagamack Pulp & Paper 6s, 1951	103	105
Westfield River Paper Serial 7s, 1943	89	93
Whitmer-Parsons Pulp & Lumber 8s, 1938	13	20
Whitaker Paper 7s, 1942	108	110

STOCKS	BID	ASKED
American Box Board, Pfd.	9¼	10¼
American Box Board, Com.	9¼	10¼
Am. Tissue Mills, 7% Pfd.	90	93
British Columbia P. & P., Pfd.	66	71
Brompton Pulp & Paper, 8% Pfd.	100	102
Brown Corpn., 7% Pfd.	104	None Off.
Champion Fibre, 7% Pfd ...	108	110
Diem & Wing, 7% Cum. Pfd.	92	97
Eastern Mfg. Co., 1st Pfd.	60	65
Great Northern Paper, Com.	87	91
Hammermill Paper, 7% Pfd.	108	110
Hinde & Dauch, Com.	135	None Off.
Hinde & Dauch, 6% Pfd.	102	None Off.
Holyoke Card & Paper	160	None Off.
Marathon Paper Mills, Com.	125	...
Midwest Box Co., 8% Pfd.	98	102
Midwest Box Co., 6% Pfd.	95	99
Louis De Jonge Co., 7% Pfd.	94	97
Oxford Papers, Com.	175	185
Oxford Paper Co., Pfd.	109	111
Penobscot Chemical Fibre, Com.	70	80
Richardson Co., Com.	180	200
Rubberoid	115	120
Sabin Robbins Paper Co., 7% Pfd.	105	110
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	...	110½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper Company	58	63
West Virginia Pulp & Paper, Pfd.	102½	105½
Whittaker Paper, 7% Cum. Pfd.	105	None Off.

Kinnard Mfg. Co.'s Affairs

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, May 29, 1928.—A statement just filed in the Common Pleas Court of Montgomery County by E. J. Barney Gorman, receiver of the Kinnard Manufacturing Company, shows the total appraised value of that company to be $44,408.16. Receiver Gorman showed in his report that the cash balance on hand January 25 last was $1,060.25, and the total receipts in sales and accounts receivable was $35,465.98, or a total of $35,526.23, and that disbursements since that time amounted to $35,523.31, leaving a banance on hand May 1 of $2.92.

The company was engaged for a number of years in the manufacture of folding boxes, cartons, waterproof signs, and novelties, besides other paper-made articles. It did a large and thriving business for an indefinite period. In the course of time there were many changes in ownership and control of the stock. The business was founded by men who were well-versed in the pail and box trade, originally known as the Crume & Sefton Co. The late W. H. Kinnard took over the business and the name subsequently was changed to the Kinnard Manufacturing Company.

George B. Smith, a prominent business man of Dayton, who is the financial agent for Charles F. Kettering, one of the largest stockholders in the General Motors Company, was identified with the Kinnard Manufacturing Company when it was a prosperous, going concern, and the late William Lowry was traveling representative for many years, becoming manager when Mr. Smith broadened his outside business connections. Mr. Smith for many years was identified previously with the Stillwell-Bierce & Smith-Vaile Company, which dealt with the paper mill trade for half a century.

Medford Considered for Paper Mill Site

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., May 24, 1928.—Vance P. Edwardes and B. F. McBain, pulp and paper specialists of Portland, Ore., have been spending some time in Southern Oregon, around Medford, making investigations for both local and outside people, with a view to establishing a pulp and paper mill at Medford, providing the amount of timber justifies such an enterprise. They are also investigating certain mineral deposits in the district.

BOLTON QUALITY

JOHN W. BOLTON & SONS, INC.

EAGLE KNIFE & BAR WORKS

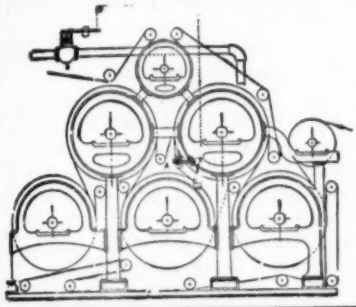
Lawrence, Mass.

The only firm making KNIVES for every machine from wood pile to finishing room.

It's the KNIVES that do the work!

The Pickles Drying Regulator **WE ARE SAFE IN OUR PROPOSITION**

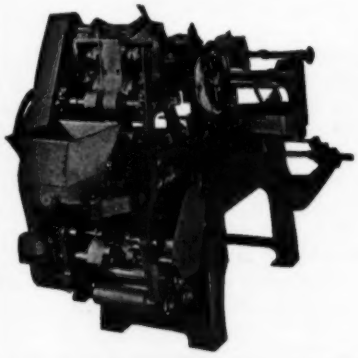
YOU'LL MAKE NO MISTAKE IN ACCEPTING IT



Pickles Drying Regulator

will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information

W. F. PICKLES **Buckland, Conn.**



HIGHEST SPEED

Paper Bag Machinery

Get My Quotations Before Placing Your Orders

Special Machinery Designed and Built

A. L. PARRISH,

1702 Robinson St., South Bend, Ind.

Cotton and Paper Rolls
Super Calenders
Friction Calenders
Embossing Calenders
Hydraulic Presses and Pumps

Successors to the Granger Foundry & Machine Co.

The Textile-Finishing Machinery Company

PROVIDENCE, R. I.

New York Market Review

Office of THE PAPER TRADE JOURNAL,
Tuesday, May 29, 1928.

Trading in the local paper market was rather quiet during the past week and demand for the various grades was light. Prices continue to hold up to schedule in most instances. Judging by the volume of inquiries being received, an improvement may be expected shortly. Sales organizations of the leading paper houses are keeping up their efforts to secure new business and anticipate a good volume of orders before the usual mid-summer lull.

Production of news print continues heavy and the output is being steadily absorbed, regular contracts accounting for the bulk of the business. The spot market is fairly active and offerings are reported to be ample for current requirements. Prices rule fairly steady, although competition for desirable orders is exceptionally keen and concessions are reported to have been made in some quarters.

Conditions in the paper board market are practically unchanged. Demand for box board is normal for the time of the year and, while production is slightly ahead of consumption, prices remain steady. The demand for fine papers is moderately active. Most of the business transacted lately has been along routine lines. The position of the coarse paper market is satisfactory, and wrapping paper continues to move in good volume. Prices remain unchanged.

Mechanical Pulp

Some improvement has been noticed in the ground wood market, and both imported and domestic grades are in better request. Production is quite large enough to take care of current needs, although there are no undue accumulations. Prices are holding up to schedule in most instances and shading is infrequent.

Chemical Pulp

Offerings of imported chemical pulp are still limited, and while the prevailing demand is rather light, the market remains steady to firm. Bleached sulphite is still quoted at from $3.65 to $4.25, ex-dock Atlantic ports. No. 1 Kraft is selling at from $2.60 to $2.75. Mitscherlich unbleached is offered at from $2.65 to $3.25. Domestic chemical pulp prices are holding up to former schedules.

Old Rope and Bagging

Demand for foreign and domestic old rope is fairly persistent, especially for the old manila grades. Prices are practically unchanged. Bagging is in normal request for the season. Prices on the different grades of bagging are steady and unchanged. The burlap market is exhibiting a strong undertone.

Rags

Mill demand for domestic rags is slightly better. Roofing stock and cotton cuttings are in particularly good request. Quotations on domestic rags are holding up fairly well. The imported rag market is moderately active, although conditions on the other side are unchanged. New Dark Cuttings are now quoted at from 2.50 to 3.00, and New Mixed Cuttings at from 2.75 to 3.25. Imported Dark Cottons are offered at from 1.55 to 1.65. Old Shopperies are selling at from 1.50 to 1.55.

Waste Paper

Mixed papers are in somewhat better demand in the West, and some of the western mills have entered the eastern market. There has also been an improvement in the demand for Soft White Shavings, which are now being used by some mills for making book paper. Book stock is still steady to firm, affected by the scarcity of offerings. Old Kraft machine compressed bales are also in excellent request. Prices on the various grades are generally steady.

Twine

During the past week the business transacted in the twine market was mostly along routine lines. The industry is considered to be in a sound condition at present and should the prevailing demand for wrapping paper continue, the twine dealers will undoubtedly benefit proportionately. Prices remain steady and the schedule is being maintained without much difficulty.

Elwell-Parker Issue Catalogue

The Elwell-Parker Electric Company, Cleveland, Ohio, has issued an interesting catalogue which shows about half the Elwell-Parker models now being built to match the processing requirements in practically all branches of manufacturing.

This catalogue contains information which will enable a more accurate estimate of just how a tructor will fulfill the requirements of a transport, tiering, stacking or general handling operation and its timing with other processing operations.

The outstanding types are those for lighter manufacturing, for the concern which in facing today's demands for reduced costs of common labor at skilled labor prices feels a responsibility to the employee seeking modern equipment to avoid all waste and hazard.

For those concerns which have during the past fifteen years experienced the advantages of the electric and who now have planned for the handling of larger and larger units through production the heavier five and ten ton lift truck and tiering machines will be of interest. Simplification of construction, the greater use of modern steels and safety features characterize the line.

O. S. Sleeper Goes With Buffalo Machine Co.

The Buffalo Foundry and Machine Company, manufacturer of Buflovac vacuum dryers, evaporators and chemical apparatus, announces the appointment of O. S. Sleeper, engineer in charge of special development work. Mr. Sleeper, who is a recognized authority on vacuum dryers and chemical plant equipment, has for the past seven years conducted the O. S. Sleeper Company, manufacturing similar equipment. Prior to that, for fifteen years, he was associated with the Buffalo Foundry and Machine Company, as engineer in charge of all engineering.

Award for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 29, 1928.—The Virginia Paper Company has been awarded the contract for furnishing the Government Printing Office with 5,000 sheets of 24x36 inch brown cloth lined paper at $169.10, bids for which were received on May 2.

Cumberland Mill Installs Seybold Trimmers

The Cumberland Mill has added two 84 inch Seybold Mill Trimmers to the equipment of the new factory at Cumberland, Me.

For reliable running and average long life

LINDSAY FOURDRINIER WIRES

are unsurpassed

We make them for the largest and fastest machines.

Cylinder Wires All Sizes

The Lindsay Wire Weaving Co.

Collinwood Sta. CLEVELAND, OHIO

it's wise to use "A-Syrup" size

It takes the fingers of both hands to count the reasons why you should use "A-Syrup" silicate of soda in your beaters.

1. Increases strength of sheet.
2. Better rattle and snap to sheet.
3. Better printing surface.
4. Increases absorption and fixation of colors.
5. Increases retention of loading.
6. Rapid and complete sedimentation of machine water.
7. Flatness of cut sheets of paper.
8. Good working on paper machine.
9. No sticking at the presses.
10. Smaller consumption of felts.

Write us about any one or all ten. Information cheerfully given.

Philadelphia Quartz Company
Philadelphia, Pa.

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE U MARK

Yes Sir! They're real dyestuffs

Heller & Merz manufacture is concentrated upon one quality of dyestuffs—the best that large resources, skill and knowledge can produce. Our customers believe we are successful.

The proof is the fact that we have been supplying exacting users for nearly 60 years.

The HELLER & MERZ COMPANY
505 Hudson St., New York

Boston 287 Atlantic Ave. | Chicago 146 W. Kinzie St. | Philadelphia 114 Market St.

Springfield, Mass. 24 Lester Street

Factory—NEWARK, N. J.

FIDALGO DRYING SYSTEMS
(Patented)

PULP CHIPS BARK

FEATURES—Largest factory production and greatest experience in field.
WE FURNISH complete system for bleached or unbleached stock, insuring lowest operating cost, minimum floor space, cleanliness, high test and simple baling method for domestic and export shipments.

LATEST INSTALLATIONS—Union Bag and Paper Power Corporation, Tacoma, Wash.; Shaffer Box Company, Tacoma, Wash.

Technical Economist Corporation
40 RECTOR STREET, NEW YORK, N. Y.
Telephone Whitehall 5243 Cable Herenco

Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Tuesday, May 29, 1928.

BLANC FIXE.—Trading in the blanc fixe market was moderately active during the past week. Supplies are moving into consumption in a normal manner. Prices are fairly steady. The pulp is now selling at $50 per ton, in bulk, while the powder is quoted at 4¼ cents to 4⅜ cents a pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is rather quiet at present. Contract withdrawals, however, are going forward in a regular manner. Prices are unchanged. Bleaching powder is still offered at from $2 to $2.35 per 100 pounds, in large drums, at works, according to quantity and grade.

CASEIN.—Conditions in the casein market are practically unchanged. Prices are holding up to previously quoted levels. Domestic casein is quoted at from 15½ cents to 17 cents a pound. Imported casein is selling at from 16 cents to 17 cents a pound, all in bags, car lot quantities.

CAUSTIC SODA.—The undertone of the caustic soda market is steady. Contract shipments are going forward at a good pace. Solid caustic soda is quoted at from $2.90 to $2.95 per 100 pounds. The flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—While spot trading in the china clay market is light, the contract movement is well up to average. Prices rule steady. Imported china clay is still offered at from $15 to $25 a ton, in bulk, ship side. Domestic paper making clay is quoted at from $8 to $9 a ton, at mine, and pulverized at from $10 to $12.

CHLORINE.—Steadiness prevails in the chlorine market. Contract withdrawals are proceeding at an excellent pace. Prices remain unchanged. Chlorine is quoted at 3½ cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 3¾ cents to 4 cents a pound.

ROSIN.—No radical changes transpired in the rosin market. Demand for this product is rather quiet at present. At the naval stores gum rosin is selling at from $8.60 to $8.90 per 280 pounds, ex dock, in barrels. Wood rosin is still quoted at from $6.50 to $7.30 per 280 pounds, southern shipping points.

SALT CAKE.—The position of the salt cake market is sound. Supplies are moving into consumption in a regular manner and production is being maintained in sufficient volume to take care of current needs. Salt cake is quoted at from $15 to $17 a ton, in bulk, at works. Chrome salt cake is selling at from $14 to $15.

SODA ASH.—Demand for soda ash is fairly satisfactory. Supplies are moving into consumption in good volume. Prices are holding up to schedule without difficulty. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Consumption of starch is about normal for the time of the year. Offerings are large enough to take care of current requirements. Prices are being maintained at previously quoted levels. Special paper making starch is selling at $4.12 per 100 pounds, in bags, and at $4.29 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The sulphate of alumina market is moderately active. Prices rule steady and unaltered. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.55 per 100 pounds, in bags, at works. The iron free is selling at from $1.90 to $2.05, in barrels, at works.

SULPHUR.—Most of the business transacted in the sulphur market during the week was routine. Manufacturers are reported to be receiving a good number of inquiries for future business. Prices remain unchanged. Sulphur is quoted at from $18 to $19 a ton, in bulk, at mine, on contract orders.

TALC.—Mill demand for talc is about normal for the season and the market is steady and unchanged. Stocks are ample for immediate needs although there are no undue accumulations. Domestic talc is quoted at from $16 to $18 a ton, at mine. Imported talc is offered at from $18 to $20 a ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
News—		
Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	4.50	@ 4.75
Southern	4.25	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	47.50	@50.00
Straw	52.50	@55.00
Chip	45.00	@47.50
Binders' Boards	65.00	@67.50
Sgl. Mla. Ll. Chip	52.50	@55.00
Wood Pulp	80.00	@85.00
Container	67.50	@72.50
85 test Jute Liner	57.50	@60.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	30.00	@31.25
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@29.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.65	@ 4.25
Easy Bleaching	2.70	@ 2.90
No. 1 strong unbleached	2.60	@ 2.70
Mitscherlich unbleached	2.65	@ 3.25
No. 2 strong unbleached	2.50	@ 2.60
No. 1 Kraft	2.60	@ 2.75
No. 2 Kraft	2.40	@ 2.50
Sulphate—		
Bleached	3.75	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.60	@ 2.75
News Sulphite	2.40	@ 2.65
Mitscherlich	3.00	@ 3.70
Kraft (Domestic)	2.70	@ 3.30
Soda Bleached	3.35	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.65

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.75	@12.25
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.50	@11.00
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.25	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.13
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.50	@ 6.25
No. 3 White Linens	4.50	@ 5.00
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.55	@ 1.65
Old Shopperies	1.50	@ 1.55
New Shopperies	1.45	@ 1.55
French Blues	2.10	@ 2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.75
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, heavy	1.60	@ 1.65
Bright Bagging	1.60	@ 1.65
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	3.00	@ 3.25
Domestic	3.25	@ 4.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.25	@ 3.50
Hard, White, No. 2	2.75	@ 3.00
Soft, White, No. 1	2.60	@ 2.85
Flat Stock—		
Stitchless	1.85	@ 1.95
Overissue Mag	1.90	@ 2.00
Solid Flat Book	1.75	@ 1.80
Crumpled No. 1	1.35	@ 1.45
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.80	@ 1.90
Manilas—		
New B. B. Chips	.65	@ .75
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.75	@ .85
Container	.60	@ .70
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	1.80	@ 1.90
News—		
No. 1 White News	1.55	@ 1.65
Strictly Overissue	.80	@ .90
Strictly Folded	.60	@ .70
No. 1 Mixed Paper	.45	@ .50
Common Paper	.30	@ .35

Clay

300 tons daily

AMERICAN MADE FOR AMERICAN TRADE

H. T. BRAND
COATING CLAY
and
High Grade Filler Clay

A product developed as a result of 43 years experience in washing American Clays. Today being used in many of the largest paper mills.
Ask for Samples.

The **EDGAR BROS. CO.**
50 Church St. *New York*

The

ST. REGIS PAPER COMPANY

Daily Capacity
525 TONS

Newsprint
Catalog and Directory Papers
Fibre Wrapping Papers
Packers Oiled Manila
Specialties

General Sales Office

15 Broad St., New York

Farmers' Bank Bldg.
Pittsburgh, Pa.

SHIPPING INSURANCE

The Use of

ELIXMAN CORES

protects your rolls and insures their delivery to your customer in perfect condition. They eliminate claims for damage.

SHIPPING INSURANCE

Your two sources of supply are

Canadian Elixman Company
HAMILTON, ONTARIO

Elixman Paper Core Company
CORINTH, N. Y.

SINCE 1887

Biggs Globe and Cylinder Rotary Bleaching Boilers have become known in every part of the world as standard paper-plant equipment. Repeated installations indicate very positively the complete satisfaction of our old customers.

THE BIGGS BOILER WORKS CO.
AKRON, 20, OHIO

Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¾
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¾
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¼	@	.06¾
Sulphite Screenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¾
White Tissue—			
20x30 Sheet	.07¼	@	.07½
Boards, per ton—			
(Delivered Central Territory)			
Plain Chip	37.50	@	41.00
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—			
(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.50	@	2.60
No. 1 Mixed	1.00	@	1.05
No. 2 Mixed	.90	@	1.00
Ledger & Writings	1.55	@	1.65
Solid Books	1.20	@	1.30
Blanks	1.70	@	1.80
Krafts	1.90	@	2.00
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (oversize)	.65	@	.75
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.70	@	.80
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¼	@	.04
No. 1 Jute Manila	.08½	@	.09
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05¼	@	.05½
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¾	@	—
Straw Board	60.00	@	65.00
News Board	47.50	@	—
Chip Board	45.00	@	—
Wood Pulp Board	4.50	@	5.00
(Carload Lots)			
Binder Boards—			
No. 1, per ton	80.00	@	90.00
No. 2, per ton	75.00	@	80.00
Carload lots	65.00	@	75.00
Tarred Felts—			
Regular	58.00	@	63.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.44	@	1.54
Best Tarred, 3-ply	1.93	@	2.08
No. 1 Mixed Paper	.65	@	.70
New Blue	—	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09½
New Black Mixed	.05	@	.05½

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope	3.00	@	3.50
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1. New Light Burlap	2.50	@	2.75
New Burlap Cuttings	—	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.25	@	3.35
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.40	@	2.50
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	2.00	@	2.10
Writing Paper	1.75	@	1.90
No. 1 Books, heavy	1.75	@	1.90
No. 2 Books, light	1.25	@	1.40
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.00	@	1.10
Container Manila	.80	@	.90
Old Kraft	2.25	@	2.50
Common Paper	.55	@	.60
No. 1 Mixed Paper	.55	@	.60
Straw Board, Chip	.65	@	.75
Binders Board, Chip	.65	@	.75
Overissue News	.80	@	.90
Old Newspaper	.55	@	.60

Domestic Rags (Old)

White, No. 1—			
Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—			
Repacked	.02¾	@	.02¾
Miscellaneous	.02	@	.02¼
Thirds and Blues—			
Repacked	2.50	@	2.75
Miscellaneous	1.80	@	2.00
Black Stockings	3.75	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.25	@	—
No. 4	1.10	@	1.15
No. 5A	.85	@	.90
B	.80	@	.80
C	.70	@	.80

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05½	@	.06½
No. 2 Kraft	.04¾	@	.05
Common Bogus	.02¼	@	.02¾
Delivered New England points			
Straw Board, rolls .009			57.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board			47.50
Chip Board			45.00
Single Manila Pulp lined board	55.00	@	60.00
Single White, patent coated board bender	72.50	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.10
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.60	@	—
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.50	@	—
No. 1 Books, Heavy	2.00	@	—
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.20	@	1.25
White Blank News	1.40	@	1.50
Old Kraft	1.90	@	2.00
Print Manila	.70	@	.80
No. 1 Mixed Paper	.45	@	.50
Overissue News	.70	@	.80
Old Newspapers	.50	@	.60
Box Board, Chip	.65	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	1.60	@	1.70
Manila Rope—			
Foreign	2.80	@	3.00
Domestic	3.00	@	3.50
Mixed Strings	.95	@	1.00
Scrap Burlaps	1.40	@	1.50
Wool Tares, heavy	1.60	@	1.65
New Burlap Cutting	—	@	2.00

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.11	@	.11¾
Silesias, No. 1	.07	@	.07¾
New Unbleached	.09½	@	.10
Fancy	.05	@	.05½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.07	@	.07½
New Black, soft	.04	@	.04¼
Khaki Cuttings	.05	@	.05¼
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	5.50	@	5.75
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.12½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.80	@	1.90
No. 2	1.60	@	1.70
No. 3	1.25	@	1.37½
No. 4	1.25	@	1.37½

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.55	@	1.60
New No. 1 Shirt Cuttings	10.50	@	11.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	5.00	@	5.50
New Checks & Blues	4.50	@	4.65
Old Fustians	1.90	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Rag	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.60	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	62.00	@	—
Sulphite news grade	62.00	@	—
Sulphite, bleached	75.00	@	—
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk, News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.80	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.11½	@	—
Fancy Shirt Cuttings	.05½	@	—